THE IRON AGE SEMI-ANNUAL INDEX

JANUARY - JUNE, 1949, Vol. 163

Illustrated Articles Indicated by *

TRON AGE

A CHILTON TO PUBLICATION

100 East 42nd Street, New York 17, N. Y.

Acme Equipment Co.: Metal Shear*, May 1 May 19 p 103

300

Acme Steel Co.: New Strip Mill, Jan 27 p 119

Acromark Co.: Color Filling Machine, Apr 14 p 93 Marking Machine, Jan 27 p 83 Plate Marking Machine*, Mar 3

Adhesives:
Brake Lining Adhesive, B. F.
Goodrich Co., Apr 28 p 95
Filament Tape, Minnesota Mining
& Mfg. Co., Apr 28 p 95

Adjustable Fixture Increases Utility of Special Purpose Machine, by Thomas E. Lloyd*, Jan 20 p 61

Aetna Cylinders, Inc.: Acetylene Cylinders, Apr 14 p 92

Air Reduction Sales Co.: Hardfacing Alloys, Mar 3 p 115 Heliwelding Used as Repair Tool, Feb 17 p 92

Aircraft: Components, Ultrasonic Testing*, June 23 p 66

Fixtures and Patterns, Protected in Open Storage*, June 30 p 55
Industry Advisory Committee Holds
First Meeting, June 9 p 118
Milling Aircraft Wing Skins*, May 5 p 78 p Propulsion Advancement, May 19 p 146 West Vest Doing Better Financially, Apr 7 p 122

Aircraft Electronics Associates, Inc.: Noise Meter Checks Mechanical Assemblies*, Mar 31 p 80 Vibration and Noise Detector, Mar 17 p 102

Aircraft-Marine Products, Inc.: Bench Press*, Mar 17 p 101

Aircraft Tools, Inc.: Air Plier, June 2 p 87 Counterbore*, May 12 p 102

Ajax Electric Co.: Isothermal Quench Furnace*, May 5 p 101

Ajax Electrothermic Corp.: Induction Heater*, Feb 10 p 84

Akweld Construction Co.: Welded Fittings Fabricated from Flat Steel Plate*, Feb 3 p 121

Albin, Joseph:
Drilling Square Holes on Lathe*,
Mar 17 p 98
Fast Methods for Cleaning Bearings*, May 26 p 73

Albrecht, W. M., Milton Tilley, L. R. Spann and J. H. Lansing: Machining Malleable Iron*, June 2 p 73

Allegheny Steel Band Co.: Steel Strapping, Jan 20 p 75

Allen Mfg. Co.: Pipe Plugs, June 23 p 87

Allied Research Products, Inc.: New Iridite, Jan 27 p 83

Allied Witan Co.: Air Exhaust Muffler, Apr 28 p 94

Allis-Chalmers Mfg. Co.: Car Shaker, Apr 7 p 109 Core Drier*, June 23 p 83

Allis, Louis, Co.: Single Phase Motors*, May 26 p 85

Alloy Steel:
Boron, Production Use, June 23
p 82
Boron-Titanium Steels for Moderate Temperatures*, June 16 p 90
Business Down 25 Pet from Fourth
Quarter 1948, Apr 28 p 129
Casting Stainless Steel Centrifugally In Permanent Metal Molds*,
Jan 27 p 56

Castings, Talgo Train Makes Extensive Use*, June 9 p 58
Deltamax—A New Magnetic Core
Material*, Mar 31 p 70
Metallurgy and Heat Treatment of
Cutting Tools*, (Part II), Jan
13 p 61 13 p 61 illing High Strength Alloys at Elevated Temperatures*, Apr 28

p 67 Steel Conservation in Lightweight Freight Cars*, Feb 3 p 100 Super Alloys, Tempil* Corp., Mar 3 p 113 (See also Steel: Nonferrous Metals)

All-State Welding Alloys Co.: Welding Kit, Mar 31 p 85

Aluminum: Casting Alloys, Heat Treating*
(2 Parts), Mar 3 p 88; Mar 10 Finish, Chemclean Products Corp., Mar 3 p 115

Finish, Chemclean Products Corp., Mar 3 p 115

Foil Mill*, Apr 28 p 108

Furnace Brazing Refrigerator
Parts*, May 26 p 62

German Clad Mills Resume Production, Mar 3 p 99

Grain Refinement*, Jan 20 p 66

Hot Tearing of Castings, Feb 24
p 100

p 100
Japanese Industry Described, June
9 p 130
Market Grows Easier*, Mar 17
p 133

p 133
Metallographic Study of Alloy
3S*, May 26 p 74
New Alloy, Permanente Products
Co., May 12 p 105
Permanente Ohio Mill, May 13 p

140

140
Protection For Drawing and Ironine*, Mar 10 p 106
Rolling Mills Bought by Swiss Firm, May 12 p 142
Sheet, Prime Coating*, Jan 13 p 42
Turnabout Causes Producers to Seek New Customers, June 9 p 113

Vitreous Enamels for, Jan 13 p 57 (See also Nonferrous Metals)

Alvey-Ferguson Co.: Rack Washer*, Mar 17 p 101

American Air Filter Co.: Dust Control Unit*, Apr 7 p 107

American Airlines: Drilling Square Holes on Lathe*, Mar 17 p 98

American Broach & Machine Co.: Surface Broaching Machine*, Feb 17 p 100

American Car & Foundry Co.: Alloy Steel Casting, Talgo Train Makes Extensive Use*, June 9

American Ceramic Society: Steelmaking Refractories Studied. Steelmaking 1 June 9 p 56

American Chain & Cable Co., Inc.: Electric Hoists, Jan 13 p 65

American Cyanamid Co.: Core Binder, Apr 14 p 93

American Diamond Saw Co.: Abrasive Wheel*, June 23 p 85

American Electric Fusion Corp.: Brazing Machine*, Feb 3 p 125

American Electroplaters' Society: Milwaukee Meeting*, June 16 p 84

American Foundrymen's Society: Annual Meeting*, May 12 p 90 Technical Program of Convention Apr 21 p 71

American Gear Manufacturers Assn.: ear Standardization Urged, June 16 p 93

American Institute of Mining and Metallurgical Engineers: AIME Annual Meeting*, Mar 3 p 104

American Iron & Steel Institute: Annual Meeting*, June 2 p 77 Blast Furnace Capacity and Pro-

duction, November, Jan 6 p 309;
December, Feb 10 p 124; January, Mar 10 p 158; February
Mar 31 p 118; March, May 5 p
135; April, June 2 p 121; May,
June 30 p 102
Fairless Awarded Highest Honor,
June 2 p 117
Production of Steel Ingots and
Steel for Castings, December,
Jan 20 p 110; January, Feb 17
p 134; February, Mar 17 p 138;
March, Apr 21 p 122; April,
May 19 p 142; May, June 16 May 19 p 142; May, June 16 p 142-A Shipments of Steel Products, No-

nipments of Steel Froducts, No-vember, Jan 20 p 102; December, Feb 17 p 137; January, Mar 24 p 128; February, Apr 14 p 127; March, May 12 p 138; April, June 9 p 110

American Laundry Machinery Co. Laundry Machinery Redesigned fo Welded Construction*, May

American Lava Corp.: Strainer Cores, Mar 10 p 125

American Manganese Steel Div.: Hardfacing Welding Rods, Feb 3 Hardfacing p 125

American MonoRail Co.: Monorail Carrier*, June 30 p 68

American Optical Co.: Microfilm Reader, Apr 21 p 89

American Screw Co.: Screw sticks*, June 16 p 104

American Society for Metals: Scientists Participating June 16 p 142

American Steel Warehouse Assn.: Competition Stalks Halls, May 26 p 122 New Chapter Officers Named, May

American Steel & Wire Co.: Duluth Works Expanded, Jan 6 p 308 p 308 Improved Spectrographic Power Source*, Apr 21 p 84 Springs Sales Div. Formed, Apr 21 p 152

American Wheelabrator & Equip-ment Corp.: Stress Peening*, Apr 21 p 66

Ames Precision Machine Works; Portable Hardness Tester*, Feb 10 p 86

An Analysis of Nitriding, by Howard E. Boyer*, (2 Parts), Feb 10 p 68; Feb 17 p 93

An Analysis of Prices, Wages and Costs in the Steel Industry, by George H. Blackett and Alvin Mayne*, Jan 27 p 60

An Approach to Taconite Utilization, by John J. Howard*, Apr 14 p 70

Annealing: (See Heat Treating; Steel, Treatment)

Anodizing: (See Cleaning and Finishing)

An Unusual Cam Milling Fixture, by Robert Mawson*, Jan 27 p 66

Anthony, John:
Aluminum Market Grows Easier*,
Mar 17 p 133
British Foundry Group Completes
Tour*, May 5 p 142
Control of Plant Smoke and Waste

Creating Big Cost Problem, June

Creating Big Cost Problem, June 30 p 101

Domestic Pig Iron Buyers Market Returns, Mar 31 p 125

Foreign Steel Offers Flood Atlantic Coast Warehouses, Feb 17

p 131 Nonferrous Metals*, Jan 6 p 266 Scrap Market Stagnant, No Signs of Renewed Activity, Apr 14 p

Sharp Price Dips, Mine Closus Stiffen Metals Market, May

First Compa

Ford Str May Ford Tr

dustry

Ford W 123 Freight

14 p Gas En Efficie GM Car

Quart GM Cu GM F Engir

GM H

GM Ho

Truc GM Sh

Heliare ders

High Detr

24 p Hudson Plan Kaiser

tion.

Kaiser "Uti

Labor 17 T

Labor Light Mat p 72 Machi p 72 Nash

Aho

110 1949 Feb Oldsn Tec Ens

Pro

Api

Postw

14 Produ Fir 108

Produ

Prod of 108 Prod

Re De Sales and Steel Ma

Stud Ye Styli

D

12

ea 10

Axtell. Elec 48

Bain, Tur

Baker

Ann

Stiffen Metals Market, May p 144 Sudden Turnabout In Alumin Market Causes Producers to S New Customers, June 9 p Trade Circles See Possibility of Early Reduction in Price Zinc, May 19 p 147

Arcos Corp.: Copper Welding Rod, Feb 3 p 13

Argentina.: Sponsors New Seamless Tube Mi Mar 17 p 131

Armco Steel Corp.: East Works Set Safety Reco June 2 p 120

Armed Services Procurement, Donald F. Carpenter*, Jan p 162

Armstrong Bros. Tool Co.: Power Pipe Threader, Feb 24 p 1

Aro Equipment Corp.: Lightweight Grinder, May 19 p 1

Atlas Chain & Mfg Co.: Chain Repair Set, May 5 p 105

Atomic Energy:
Atom Smasher Parts for Carneg
Institute*, Mar 24 p 129
Atoms Used to Test Wear, Mar 2 Ford Using Isotopes, Mar 17 p l Nuclear Fission in Fuels, Feb. p 161 p 161 Radioisotopes, Bibliography of Industrial Uses, June 9 p 60 Radioisotopes Seen Best Bet for Next 10 Years, Mar 17 p 158

Atrax Co.: Solid Carbide Reamers, Apr 28 p

Aurora Equipto Co.: Steel Drawer Cabinets, Apr p 95

Automatic Chuckers Feature His Production and Efficiency, Gus Carlson*, Apr 21 p 78

Automatic Transfer Presses Incre Stamping Output, by Schroeder*, June 2 p 60

Automatic Transportation Co.: Stacking Truck*, Jan 13 p 67

Automotive Industry:
Auto Market, Break Seen In '49
Jan 6 p 286
Automatic Transmissions Con
petitive Struggle Only Begin
ning, Apr 21 p 92
British Engineer Views America
Car, Mar 24 p 98
Car Prices Move Up, Jan 20 p 9
Car Prices on Way Down, Mar 1
p 128
Chevrolet Leads Registrations for

Chevrolet Leads Registrations for

Chevrolet Leads Registrations for 1948, Jan 13 p 106
Chevrolet Saves Weight in 1946
Models, Jan 20 p 78
Chevrolet Will Use Bonded Brake Linings on 1949 Cars and Light Trucks, Mar 3 p 118
Chrysler Introduces Postwar Cars, Mar 24 p 133
Chrysler Showing Surprises Industry, Jan 20 p 78
Connecting Rods, Fracturing Assures Perfect Alignment*, May 5 p 81

sures Perfect Alignment*, May 5 p 81
Continental Air-Cooled Tank Engine Completed, June 9 p 111
Detroit*, Jan 6 p 249
Dodge Introduces 1949 Models Mar 3 p 118
Door Hinges, Broaching*, June 2: p 81

p 81
Economic and Competitive De velopments Research Emphasized, June 16 p 108
Employment Down, Jan 20 p 108
Enameling Auto Window Moldings
By Electrostatic Spray*, Feb 10

p 75 Engineers Hold Annual Summe Session, June 9 p 76 Farm Implement Makers Expec Good Year, Fear Rising Costs Jan 13 p 99

Wall

First Among Steel Consuming Companies, Apr 28 p 128 Ford Pensions 1949, No. 1 Issue, June 30 p 72 Pord Strike Idles 135,000 Workers, May 12 p 108 Ford Tractor Output 20 Pct of In-dustry, Jan 13 p 72 Ford Workers Return, June 2 p 123

Closure May 1

uminu to Se

y of a

p 13

e Mil

Recor

p 10

105

far 2

of Is

et f 158

8 p

or

High

rea .

7

14

Con

p i

5 6

194

Iral

Car

du

dels

e 2

Ford Workers Return, June 2 p
123
Freight Approaching Decision, Apr
14 p 162
Gas Engine with 52 Pct Greater
Efficiency, May 12 p 161
GM Car, Truck Sales Up for First
Quarter, May 19 p 137
GM Cuts Prices, Mar 3 p 118
GM Features High Compression
Engines and Automatic Transmissions, Jan 27 p 86
GM Heading For All-Time Percentage of Industry, June 2 p 90
GM Holds Show*, Jan 20 p 107
GM Introduces Heavy Duty Line
Trucks, June 2 p 92
GM Show at Waldorf, Jan 27 p 86
Heliarc Welding Automobile Fenders*, Jan 13 p 51
High Production Schedules Keep
Detroit Steel Demand Up, Mar
24 p 121
Hudson High Compression Engine
Plans Revealed Lyne 20 p 22

24 p 121 Hudson High Compression Engine Plans Revealed, June 30 p 72 Kaiser-Frazer Changes Organiza-tion, Mar 31 p 116 Kaiser-Frazer Introduces New "Utility" Model, Mar 31 p 88 Labor Unrest During 1949, Feb 17 p 106

17 p 106

Labor Unrest Signs, Apr 28 p 100 Light Cars Advocated on Basis of Materials Conservation, Jan 13 p 78 Machining Axles at Ford*, Apr 28

aching 7 p 72
ash Deliveries Rise, May 5 p 135
lew Car Resignations. Sales
Above 1948 Quarter, May 5 p

110
1949 Models Viewed By Critics,
Feb 10 p 90
Oldsmobile Uses Modern Gaging
Techniques In Producing New
Engine*, Feb 10 p 78
100 Pet Postwar Car Still To Be
Produced, Feb 10 p 90
Packard Automatic Transmission,
Apr 28 p 98
Postwar Production Peak Hit Apr

Postwar Production Peak Hit, Apr 14 p 96 14 p 96 roduction Hits All-Time High First Half of 1949, June 16 p

108
Production Peak Cut Not Due Now*, June 23 p 117
Production Peak Continues in Face of Receding Buying, May 5 p

Products for First Half Sets 1949
Record, June 30 p 111
SAE Spring Production Clinic at
Detroit, Mar 24 p 98
Sales Up Sharply During March
and April, Apr 21 p 126
Steel Ingot Demand Off Sharply,
Mar 31 p 88
Studebaker Completes
Year, Feb 3 p 160
Styling Tested As Sales Factor
During 1949, Feb 3 p 132
Supercharged E n g in e Increases
Power Output 80 Pct, June 9 p
122

W akness Seen By Steel, Jan 20 p.

Axtell, Willard G.: Electropolishing Brass*, June 30 p

B

Bain, E. C. and H. W. Graham: Turbo-Hearth*, Apr 21 p 63

Baker & Co.: Annealing Gas Generator, May 19 p 106

Baker Bros., Inc.: Die Cushions*, June 2 p 85

Baker, George:
Proposals of White House Face
Fight in Congress — Especially
Steel, Jan 13 p 101

Baker-Raulang Co.: Clamp Truck*, Apr 7 p 108

Baking: (See Cleaning and Finishing)

Baldwin Locomotive Works: Hydraulic Weighing Cell*, Feb 24 p 105
Rolling Load Fatigue Machine*,
Apr 14 p 89

Barker, L. J.: Metallographic Study of Aluminum Alloy 3S*, May 26 p 74

Barloon, Marvin: Steel Conservation in Lightweight Freight Cars*, Feb 3 p 100

Barnes, W. F. and John, Co.: Boring Tractor Housings*, May 26 p 70

Barrett-Cravens Co.: Floor Truck, Feb 10 p 86

Crankshafts, Forging One Throw at a Time*, June 23 p 71 Electropolishing Brass*, June 30

p 48 Milling illing Supercharger Bucket Blades From Stock*, June 23 p

Basing Points: (See Prices, FOB and Mill)

Bassick Co. Heavy Duty Casters, June 9 p 72

Bastian, E. L. H.: Metal Cutting Fluids*, Feb 10 p

Batchelder Engineering Co.: Thread Roller*, Mar 3 p 111

Batcheller, Hiland G.: Current Business Off, Long Term Good, Apr 28 p 131

Battaglia, S., E. V. Crane and H. Rottersman:
Triple Surface Protection For Drawing and Ironing Aluminum*, Mar 10 p 106

Beacon Laboratories, Texas Co.: Bed Way Lubricants, Feb 10 p 87

Beardsley & Piper Div.: Sand Conditioner*, Mar 24 p 93

earings:
Ball Bushings, Thomson Industries, Inc.*, Mar 31 p 83
Bushing Adapters, Dodge Mfg.
Co., May 19 p 107
Cleaning, Fast Methods*, May 26

Cleaning, Fast Methods*, May 26 p 73
Ford Produces Parts From Metal Powders*, Mar 24 p 76
Friction Type, Getting the Most Out*, Mar 3 p 96
Link-Belt Produces*, (2 Parts), June 23 p 74 and June 30 p 58
Noise Meter Checks Mechanical Assemblies*, Mar 31 p 80
Pre-Lubricated Sleeve Bearing, Bushings, Inc.*, June 16 p 102
Take-Up Bearing, Dodge Mig. Corp.*, May 12 p 102
Tool, Wagner Electric Corp., May 12 p 102

Beatty Machine & Mfg. Co.: Horizontal Multiple Press*, Feb 17 p 99

Beaver Pipe Tools, Inc.: Pipe and Bolt Threader, Feb 17 p 101

Belgium: American Machinery Purchased to Increase Output, Mar 10 p 158

Belle City Glove Co.: Plastic Coated Work Glove, Jan 20 p 75

Bending: (See Forming and Shaping; Presswork)

Bennett Equipment Co.: Automatic Feed*, Feb 24 p 105

Bernard Welding Equipment Co.: Insulated Electrode Holders, May 5 p 103

Bernstein, Harold and Vincent De Pierre: Grain Refinement In Cast Alumi-num*, Jan 20 p 66

Berryllium: Heat Treating*, Feb 24 p 78

Beverly Shear Mfg. Co.: Slitting Shear, Feb 24 p 105

Binks Mfg. Co.: Industrial Nozzles*, Mar 24 p 93 Portable Paint Spray Unit, May 19 p 102 19 p Spray Painting Tanks*, Feb 17 p Underbody Coating Pump*, Feb 24 p 104

Black & Webster, Inc.: High Speed Punch*, Feb 17 p 101

Blackett, George H. and Alvin Mayne: An Analysis of Prices, Wages and Costs in the Steel Industry*, Jan 27 p 60

Blair Strip Steel Co.: T. S. Blair Head, May 26 p 121

Blair, Thomas S.:
Enameling Auto Window Moldings By Electrostatic Spray*,
Feb 10 p 75
Plating Easily Buffed Nickel . . .
the Perflow Process*, June 16

Research*, Jan 6 p 241

Blanking: (See Presswork)

Blast Furnaces: (See Furnaces Blast; Steel Production)

Blaw-Knox Co.: Improvements Involve \$1.5 Million, June 9 p 104

Bleiweis, Jerome L.: Plating Waste Disposal*, June 16 p 79

Bolger, J. T.: Eliminating Pickling Room Fog*, May 26 p 79

Bolts, Nuts, Screws: (See Fasteners)

Bonderizing: (See Cleaning and Finishing)

Book Reviews: ook Reviews; New Books, Jan 13 p 53; Jan 20 p 65; Feb 10 p 82; Feb 17 p 84; Feb 24 p 99; Mar 10 p 105; Mar 17 p 90; Mar 31 p 73; Apr 14 p 69; May 19 p 99; May 26 p 79; June 9 p 54

Boring and Boring Machines:
Adjustable Fixture Increases Utility of Special Purpose Machine*,
Jan 20 p 61
Automatic Special Machine, Cross Co.*, Apr 28 p 91
Bar, Rockford Precision Tool Co.,
June 23 p 83.
Boring Machine, Snyder Tool & Engineering Co.*, Jan 27 p 79
Facing Machine, LeMaire Tool & Mfg. Co.*, Apr 28 p 91
Maghine, Covel Mig. Co.*, May 19 p 103

Machine, Covel Mig. Co.*, May 19 p 103
Special Boring—Facing Machine, Cross Co.*, Mar 24 p 91
Special Boring Machine, Zagar Tool, Inc.*, Apr 21 p 86
Tractor Housings*, May 26 p 70
(See also Machine Tools; Machining) ing)

Borroughs Mg. Co.: Storage Bins, June 16 p 105

Bostitch: Stapling Hammer, June 23 p 87

Boyar-Schultz Corp.: Tool Post Bolts, May 19 p 104

Boyd, William: Transition Problems In Producing The Unified Screw Thread*, Feb 24 p 66

Boyer, Howard E.:
An Analysis of Nitriding*, (2
Parts), Feb. 10 p 68; Feb 17
p 93
Elfect of Contamination on feet of Contamination on Quenching Media*, May 5 p 88

Bradford Machine Tool Co.: Portable Polisher*, Jan 20 p 73

Bradley, D. C.: Pressed Metal Powder Applications in the Automotive Industry*, Mar 24 p 86

Brakes, Press: (See Presses; Forming & Shap-ing)

Branson Instruments, Inc.: Coating Thickness Gage*, Apr 14

p 90 Brass and Bronze Forgings by H. C. Ward*, May 12 p 78

Brass Rods, by U. M. Evans*, Apr 14 p 66

Forgings, Brass and Bronzes, May 12 p 78 12 p 78 Powder Parts In Toys, Mar 24 p Rods*, Apr 14 p 66 (See also Nonferrous Metals)

Brassert, H. A. & Co.: Earthquake-Proof Blast Furnace*, Mar 10 p 120

Brazil: Manganese Prospects Brighter, May 5 p 138 World's Largest Tungsten Pro-ducer, Predicted, Apr 21 p 134 Prospects Brighter,

razing:
Aluminum, Selas Corp. of America*, May 26 p 85
Furnace, Aluminum Refrigerator Parts*, May 26 p 62
Machine, American Electric Fusion Corp.*, Feb 3 p 125
Machine, Selas Corp. of America*, May 12 p 102
Salt Bath Furnaces*, June 9 p 66
Silver Alloy, Eutectic Welding Alloys Corp., Feb 17 p 103
Special Machine, Selas Corp., Apr 14 p 89
Typewriter Parts Fixtured for Induction Brazing*, Apr 28 p 87

Bregman, Adolph: Metal Finishing*, Jan 6 p 275

Briggs Mfg. Co.: Profit Record, Apr 28 p 100

British Cast Iron Research Assn.: Nodular Iron, Notes on History, May 19 p 100 .

British Industries Corp.: Liquid Flux, Feb 17 p 103

Broaching and Broaching Machines: Attachment, Zagar Tool, Inc.* Attachment, Zagar Tool, Inc.*, Mar 3 p 113 Automotive Door Hinges*, June Automotive Door Hinges*, June 23 p 81
Broach Adapters, Kase Machine Co.*, June 23 p 85
Broach Designed for Two Pieces, Apr 7 p 87
Broach Sharpener, Colonial Broach Co.*, June 9 p 69
Machine, Colonial Broach Co.*, Feb 10 p 83
Machine, Oilgear Co.*, Mar 24 p 91 Pencil-Size Broach, Kase Machine Co., May 12 p 102 Steering Knuckles*, June 16 p 83 Surface Broaching Machine, American Broach & Machine Co.*, Feb 17 p 100 Thread Cutting Broach, Shearcut Tool Co.*, Mar 31 p 84 Typewriter Parts*, May 5 p 97 Vertical Machine, Oilgear Co.*, Mar 31 p 82

Mar 31 p 82 (See also Machining and Machine Tools)

Bronze Foundry Realizes Savings By Modernizing Melting Fur-naces, by Paul R. Hesse and Bruce Schafer*, Feb 3 p 122

Forgings, Brass and Bronze*, May 12 p 78

Brooks Rotameter Co.: Multi-Flow Rotameter, June 9 p

Brossard, Lester L., Co. Protective Clothing, Apr Welders 7 p 109

Brown & Sharpe Mfg. Co.: Swivel Table Adjuster*, Jan 27 p 81

Brown, D. I.:

Appliance Industry Makes Coordinated Effort to Stimulate Sales, June 16 p 137

Consumers Slash Prices, Cut Output; Conversion Bloom Fades*, Mar 31 p 113

Farm Implement Makers Expect Good Year, Fear Rising Costs, Jan 13 p 99

F.O.B. Mill*, Jan 6 p 168

Freight Car Program Doomed Unless New Orders Placed, Feb 17 p 129

Link-Belt Produces Ball and ller Bearings*, (2 Parts),

How Link-Belt Produces Ball and Roller Bearings*, (2 Parts), June 23 p 74 and June 30 p 58 Lead Price Fall to Affect 1949 Development*, Apr 14 p 125 Linepipe Supply Remaining Tight for One Year*, May 12 p 137 Lone Star Steel Co. Asks RFC Loan, Jan 27 p 120 Lone Star Steel's Expansion Hot Subject in Texas, May 5 p 136 Midwestern Business Shrinks, Feb 3 p 167

O'Mahoney Bill Seen as a Far Cry From Basing Point System, June 30 p 95

Cry From Basing Four System, June 30 p 95 Pig Iron Price Testing Due After Steel, Coal Negotiations Settled, June 23 p 115 Texas Industrial Expansion Level-ing Off, Apr 7 p 137

Bruning, Charles, Co., Inc.: Whiteprinter, Mar 17 p 103

Brush Development Co.:

Magnetic Cobalt-Nickel Allo
Plated on Wire*, June 9 p 49

Bryant Chucking Grinder Co.: Internal Grinder*, Mar 10 p. Mar 10 p 121

Bryant Industrial Div. Gas Boiler Burner, Mar 24 p 95

Buckeye Tools Corp.: Portable Vertical Sander, Feb 10

Buffalo Machinery Co., Inc.: Torque Control Couplings*, Jan 20 p 74

Buick Motor Div.:
Submerged Arc Skip Welding Ring
Gears to Stamped Flywheels*,
Jan 27 p 66
(See also Automotive Industry)

Burg Tool Mfg. Co.: Tap Holder, Apr 28 p 94

Burndy Engineering Co., Inc.: Parallel Clamp*, June 2 p 86

Bushings, Inc.: Pre-Lubricated re-Lubricated Sleeve Bearing*, June 16 p 102

Byers, A. M., Co.: Desulfurizing Hot Metal, May 12 p 83

C

Campbell, T. C.: Canada's International Fair Shows Need for World Commerce, June p 105

Competition Stalks Halls of Steel Warehouse Assn. Convention, Warehouse Assn. May 26 p 122

Harry Moses Chosen Coal Czar, June 16 p 135 Pricing Controversy Spotlighted by Normal Market Trend, Feb 24

Republic Teaches Basic Steelmak-ing In Novel Public Relations Experiment, May 26 p 119
Social Security Fight, Phillip Murray Ready, Mar 17 p 129
Staff Changes in Iron Age*, June

30 p 97 eel and the Public*, Jan 6 p 178 eel Market Competition Strong; Base Prices Due for Test, Apr

14 p 121
Steel Market Seen Differently by Leaders, Feb 3 p 159
Steel People Cross Fingers and Guess at Future Prospects, Mar 3 p 143

Canada: British Plants Follow Easing of Currency, Mar 10 p 172 Completes Nail Increasing Output

Deal, Apr 28 p 126 Construction Up, Apr 7 p 165 Copper Production Increases, Apr 7 p 182

Copper Production Increases, Apr 7 p 182

Firm Accepts Government's 50-50

Plant Offer, Mar 10 p 175

Government Lends Money To Steel Firms, Feb 3 p 164

Ingots and Castings Production, November, Jan 27 p 122; 1948

total, Feb 24 p 139

Ingot and Castings Production Up, Apr 21 p 126

Ingots, Castings Production Record Set, June 2 p 148

In go t s., Nonferrous Production Ahead of 1948, June 9 p 109

International Fair Shows Need for World Commerce, June 9 p 105

Iron, Steel Shapes, Dutput Serves Various Users, Mar 3 p 172

Iron and Steel Shapes, Production and Shipments Rise, Apr 28 p 134

Labrador Smelling Plan for Pro-

Labrador Smelting Plan for Pro posed Ore Output, Apr 14 p 140 ore Steel Coming from U. S. In 1949, Mar 10 p 175 re Consumption Hits Peacetime

Peak, Apr 28 p 127 Ore Future Linked With Costs, Mar 10 p 160 Ore Search North of Quebec-Lab-

rador, Feb 3 p 165
Pig Iron, Ferroalloys March Production Set All-Time High, June 2 p 151

2 p 151
Primary Iron and Steel Shapes Increase, Mar 31 p 120
Steel Items Tight, Jan 27 p 126
Steel Operations Continued Capacity Expected, May 12 p 128
Steel Output at Peak, Feb 17 p
135

Steel Production, to Set All Time Record, Jan 6 p 364 Steel Rate Up, Mar 17 p 138

oide Insert Cutting Tools by J. S. Gillespie*, May 12 p 84

Carboloy Co., Inc.: Carbide Cutter Blanks, June 30 p 67

Carliss, O. S.: Machining Scale Knife Edges and Bearings*, June 9 p 50

Carlson, Gus: Automatic Chuckers Feature High Production and Efficiency*, Apr

Carnegie-Illinois Steel Corp.: Gary Sheet and Tin Mill Modernization Completed*, Mar 17 p 91
Turbo-Hearth, The*, Apr 21 p 63

Carpenter, Donald F.: Armed Services Procurement*, Jan 6 p 162

Carpenter Steel Co.: Machined Stainless Steel Parts*, Apr 21 p 88

Ferrous Materials for Subzero Service, by John W. Juppen-latz*, June 9 p 46

Cast Iron: Ductile Cast Iron—A New Engineering Material*, Feb 17 p 76

Gray Iron For Ductile Casting Predicted, May 19 p 159 Nodular Graphite, Magnesium Treatment*, Feb 24 p 97 Nodular Iron, Notes on History, May 19 p 100 Nodular Iron Production for In-dustry, May 19 p 148

Casting, Precision: Frozen Mercury Patterns*, Mar 17 p 94 ee also Foundry)

Casting Stainless Steel Centrifugally In Permanent Metal Molds, by Herbert J. Cooper*, Jan 27 p 56

Casting Centrifugal: Stainless Steel, In Permanent Metal Molds*, Jan 27 p 56 (See also Foundry)

Casting, Die:
Automatie Ladling, Lindberg Engineering Co.*, June 30 p 66
Small Diecasting Machine, DCMT
Sales Corp., Feb 10 p 85
Vertical Machine, Kux Machine
Co.*, Mar 31 p 82
Nickel Plating, Feb Vertical Machine, Kux Machine Co.*, Mar 31 p 82 Zinc, Direct Nickel Plating, Feb

24 p 84

Zinc Featured in Lock Design*,
Feb 24 p 77
(See also Foundry)

Castings, Ferrous:
Alloy Steel Castings, Talgo Train
Makes Extensive Use*, June 9

p 58 Gray Iron Production Increase, May 12 p 139 Intermittent Oxygen Enrichment of the Cupola Blast*, May 12

p 96
Malleable Iron, Machining*, June

2 p 73
Materials for Subzero Service*,
June 9 p 46
Mechanization Boosts Westinghouse Foundry Capacity*, Jan

13 p 55 13 p 55 Precision Casting with Frozen Mercury Patterns*, Mar 17 p 94 Steel Castings, Isothermal Heat Treatment*, June 30 p 42 (See also Foundry)

Castings, Nonferrous:
Foundry Realizes Savings By Modernizing Melting Furnaces*, Feb 3 p 122
Grid Casting Improves Battery Life*, June 9 p 62
Hot Tearing of Aluminum Castings, Feb 24 p 100
Precision Casting with Frozen Mercury Patterns*, Mar 17 p 94
(See also Foundry)

Cavanagh, P. E.: Commercial Production of Sponge Iron*, June 2 p 67

Central Iron & Steel Co.: Improves Facilities, Feb 10 p 132

Central Steel & Wire Co.: Aluminum Fasteners, Mar 24 p 95

ramics:
Steelmaking Refractories Studied
by Society, June 9 p 56
Turbine Blades, Feb. 10 p 77
(See also Porcelain Enamel)

Chambersburg Engineering Co.: Drop Hammer Rod Clamp*, Mar 17 p 101

Champion Rivet Co.: Stainless Steel Electrode, Apr 7 p 106

Champlain Motors, Inc.: Hand Screw Machine*, June 16 p 101

Chase, Herbert:
Cooing 125 Valve Tappets Per hase, Herbert.
Gaging 125 Valve Tappet.
Minute*, May 26 p 66
Heliare Welding Automobile Fenders*, Jan 13 p 51
Oldsmobile Uses Modern Gaging Techniques In Producing New

Chemclean Products Corp.: Finish for Aluminum, Mar 3 p 115

Chicago Broach Co.: Lapping Tools*, June 30 p e7

Jan 2 nameli

ings Feb 1

Corp. ire-Re Chem

in Or

ta M

at E

Heating Corp.

ridite,

Inc.

Magnet

Plate Metal Bois Metal

Tune

Chro

May lon-S Corp

lon May

arts Soal

Buff May

Platin 12 1 Platin p 7! Polish

chir

mer

Apr Porta Mf

Porta

To

De

Rota

ber Salt-

M Shee

80

Spot

Spra

Spra

Spra 28

Stea

Stea gi Syn

Prime

Metal Metal 10 p

Hot Prod

Chicago Eye Shield Co.: Goggles, Mar 31 p 85

Communists Administer Affair Feb 3 p 150

Chrysler Corp.: Earnings Jump, Mar 31 p 140 Pressed Metal Powder Applications the Automotive Industria in the Automotive Industry
Mar 24 p 86
(See also Automotive Industry)

Cincinnati Grinders, Inc.: Grinding Machine*, June 30 p

Cincinnati Milling & Grinding M chines, Inc.:
Mist Coolant System Impro
Cutter Grinding*, Apr 7 p 9;

Cincinnati Shaper Co.: Shearing Attachment*, Apr 21 Utility Shaper*, June 23 p 83

Circo Products Co.: Hot Vapro Degreasers*, Mar 1 Twin-Tank Degreasers*, May

Clark, C. L., G. J. Comstock, Jo D. Shaw and W. V Knopp: Powder Metallurgy*, Mar 24 p

Clark Equipment Co: Wide Drive Axle*, Jan 13 p 67

Clark Instrument, Inc.: Test Blocks, May 5 p 102

Clausing Mfg. Co.: Precision Lathes*, Feb 24 p 101

Clayborne Mig. Co.: Lift Kit, June 23 p 87

Clayton Mfg. Co.: Pneumatic Presses*, Feb. 24 p.1

Cleaning and Finishing: Air-Driven Belt Sander, Buck Tools Corp.*, June 9 p 71 Aluminum Anti-Rust Paint, Spe Inc., May 5 p 105 Applying Titanium Enamels Dir

Applying Titanium Enames Dire to Titanium Steels*, Jan 27 p. Bearings, Fast Methods for Cleaning, May 26 p. 73
Blast Cleaning Cabinet, Pangbor Corp.*, Feb 3 p. 127
Brass Rods*, Apr 14 p. 66
Buffing Compound Applicate George L. Nankervis Co.*, Jun 2 p. 84

2 p 84 Burnishing Barrels, Hanson-V Winkle-Munning Co., Feb 17

101
Cleaning-Pickling Acid, Nield Laboratories, Apr 14 p 93
Cold Forming Stainless Steels*, Parts), Mar 31 p 58; Apr 7 p
Cold Parts Cleaning Machin Magnus Chemical Co., Inc Parts Cleam. Chemical

Magnus Chemical Co., Inc. Apr 14 p 92
Color Filling Machine, Acromat Co., Apr 14 p 93
Copper Anode, Wagner Bros. Inc.*, Apr 28 p 95
Corrosion Engineers Discuss Problems*, Apr 14 p 129
Deburring-Finishing Barrel, Alms. Div., Queen Stove Works, Inc. May 19 p 106
Deburring-Polishing Machine Hungerford Corp.*, May 12 103

Driving and Controlling A Mo ern Strip Pickling Line*, Jan

ern Strip Pickling Line*, January 946
Drum Cleaning Machine, Osbori Mig. Co., Mar 3 p 114
Dry Lime Treatment of Wast Pickle Liquor*, Jan 20 p 48
Electrolytic Polishing of Chronium, Mar 31 p 73
Electrolytic Tinning Bath Studies June 23 p 64

June 23 p 64
Electroplaters To Meet in Milwa kee*, June 16 p 84
Electropolishing Brass*, June

p 48 Electrostatic Field Used In Pain ing Process, Feb 3 p 186

Enamel Strippers, Enthone, Inc., Jan 20 p 75
Enameling Auto Window Moldings By Electrostatic Spray*, Feb 10 p 75
Finishing Machine, Sturgis Products Co., Feb 24 p 103
Fire Retardant Paint, F. R. P. Corp., Apr 7 p 109

0.07

Affair

p 140 plication idustry

ustry

ing M

mpro

or 21 83

ar 1

May

k, Joh p: 24 p

p 67

101

4 p 1

ucke

Spec Direc 27 p 71 Clean

ngbo

licator , Jun

n-Va

elci

ls*,

Inc

Bros

Pr

Aln

an

sbo

Was

adie

lw:

e

Pair

Fire Retardant Paint, F. R. P. Corp., Apr 7 p 109

Fire Retardant Paint, Stallton Chemical Corp., Mar 17 p 103

Fixtures and Patterns, Protected in Open Storage*, June 30 p 55

Fexible Synthetic Coating, Metric Lacquer Mig. Co., Apr 7 p 109

Finding-Polishing Machines, Delta Mig. Div.*, Feb 3 p 126

Heat Exchanger, Industrial Filter & Pump Mig. Co.*, June 2 p 85

Beating-Cooling Coils, Udylite Corp.*, May 12 p 103
Hot Vapor Degreasers, Circo Products Co.*, Mar 10 p 123 Industrial Nozzles, Binks Mig. Co.*, Mar 24 p 93
Iridite, Allied Research Products, Inc., Jan 27 p 83
Magnetic Cobalt-Nickel Alloys Plated on Wire*, June 9 p 49
Metal Cleaning Compounds, Du-Bois Co., Feb 3 p 129
Metal Coating, Lowebco, Inc., June 2 p 87

Metal Coating, Lowebco, Inc., June 2 p 87 Metal Finishing*, Jan 6 p 275 Metal Primer, Wilbur & Williams Co., Jan 27 p 83 Metal Stripper, Enthone Inc., Mar 10 p 125 Milling M ach i ne Quills, Hard Chrome Plating*, June 16 p 96 Non-Silicated Metal Cleaner, Han-son-Van Winkle-Munning Co., May 5 n 105 on-Sine Peter Winkle-Munning Co., May 5 p 105 on-Slip Paint, Frost Paint & Oil Corp., Feb 3 p 129 ylon Anode Bags, Enthone, Inc.,

Nylon Anode Bags, Enthone, Inc., May 12 p 105
Parts Cleaning Machines, Super-Soak Co.*, June 2 p 85
Perflow Process, Plating Easily Buffed Nickel*, June 16 p 86
Pickling Room Fog, Eliminating*, May 26 p 79
Plating Hook, Udylite Corp., May 12 p 103
Plating Waste Disposal*, June 16 p 79

12 p 103
Plating Waste Disposal*, June 16
p 79
Polishing Machines, Vanott Machine Corp.*, June 16 p 102
Porcelain Enamel, Acid Pretreatment, June 16 p 100
Porcelain Enameling At Lustron*,
Apr 14 p 62
Portable Paint Spray Unit, Binks
Mig. Co., May 19 p 107
Portable Polisher, Bradford Machine Tool Co.*, Jan 20 p 73
Portable Vertical Sander, Buckeye
Tools Corp., Feb 10 p 87
Prime Coating Aluminum Sheet*,
Jan 13 p 42
R a c k Washer, Alvey-Ferguson
Co.*, Mar 17 p 101
Refractory Metals, Vapor-Phase
Deposition*, June 16 p 98
Rotary Wire Brush, Hewitt Rubber Div., May 26 p 89
Salt-Bath Chromizing*, May 26 p
71

Sealing Material, Felt Products Mfg. Co., June 2 p 87 Sheet Grinder-Polisher, Excelsior Tool & Machine Co.*, Jan 27 p

Tool & Machine Co.*, Jan 27 p
80
Small Sandblaster, Sandaire Mfg.
Co.*, June 23 p 86
Spotless Dryer, Optimus Equipment Co.*, Mar 3 p 112
Spray Booth Compound, DuBois
Co., May 5 p 103
Spray Painting Control System*,
May 19 p 96
Spray Painting Tanks, Binks Mfg.
Co.*, Feb 17 p 102
Spray Washer, Detrex Corp.;, Apr
28 p 93
Steam Cleaner, Homestead Valve
Mfg. Co.*, May 26 p 87
Steam-Jet Cleaner, Livingstone Engineering Co.*, May 5 p 104
Synthetic Cleaner, Quaker Chemical Products Corp., Mar 17 p 101
Transparent Strippable Coating,
Tennessee Eastman Corp., Mar
17 p 103

17 p 103 Twin-Tank Circo

17 p 103 win-Tank Degreasers, Cir Products Co.*, May 12 p 103

Underbody Coating Pump, Binks Mfg. Co.*, Feb 24 p 104 Vitreous Enamels for Aluminum,

Jan 13 p 57 ater Wash Compound, North-Water Wash Compound, North-west Chemical Co., May 12 p 103 Wire Tinning, Selas Corp. of America*, June 30 p 66 Zinc Electro-Cleaner, Diversey Corp., Jan 27 p 82 (See also Electroplating, Descal-ing, Degreesing)

ing, Degreasing)

Cleveland Automatic Machine Co.: Improved Screw Machine*, Apr 21

Cleveland Punch & Shear Works Co.: Two Point Toggle Press*, June 9 p 69

Cleveland Tramrail Div.: Rotating Carrier*, May 12 p 104

Cleveland Vibrator Co.:

Bin Shake-Out Vibrators*, Mar 3
p p 114 Pneumatic Vibrators*, Apr 21 p

Clinton Machine Co.: Metal Disintegrator*, June 9 p 71 Vertical Shaft Engine*, June 2 p

(See Fuel)

Coatings: (See Cleaning and Finishing)

(See Fuel)

Cold Forming Stainless Steels, by Lester F. Spencer*, (2 Parts), Mar 31 p 58; Apr 7 p 93

Colonial Broach Co.:

Broach Designed for Two Pieces.

Apr 7 p 87

Broaching Machine*. Feb 10 p 83

Broach Sharpener*. June 9 p 69

Steering Knuckles, Broaching*,

June 16 p 83

Columbia Machinery & Engineering Corp.: Power Press Brakes*, Jan 20 p 71 Steel Squaring Shears*, Mar 10 p

Columbian Vise & Mfg. Co.: Hydraulic Wire, Mar 17 p 102

Commercial Production of Sponge 1ron, by P. E. Cavanagh*, June 2 p 67

Communications: Radio System Cuts Materials Han-dling Costs 15 Pct*, May 26 p

Comstock, G J., John D. Shaw, C. L. Clark and W V Knopp: Powder Metallurgy*, Mar 24 p 72

Construction: Activity 1947-1948 (Table), Jan 20 p 122

Britain Displays Road Making
Machinery*, Jan 27 p 125

Building Costs (Table), Jan 27 p

Building Costs Unchanged, Apr 14 p 154

Building Costs Unchanged, Apr 14 p 154
Competition Reduces Appropriations, Apr 14 p 148
Competition Returns, June 2 p 121
Concrete Reinforcing Steel Institute Plans Annual Research Award, Mar 24 p 127
Declines In January, Feb 17 p 133
First Quarter Above Last Year, Apr 28 p 124
GM New Center Schedule Set, May 26 p 94
Expenditures Up, Employment Off, June 23 p 122
Highways Awards Decline in 1948, Mar 3 p 124
Industrial Building Third Quarter Level, Jan 27 p 137
Leads Rate of Previous Year, Mar 31 p 130
Materials Up, Jan 20 p 107
May Building at \$16 Billion June

Materials Up. Jan 20 p 107 May Building at \$1.6 Billion, June 16 p 148

New England Awards Up, Mar 17 p 140 ew England Building Activity

Dips, Feb 24 p 142
New England Residential Building
Gains, May 19 p 160
New England Volume To Remain

at Record Levels, Apr 14 p 138 New Home Units Figures, Feb 3 p 180 1948 Total Above 1947, Jan 20 p

122
Pittsburgh Steel Boom Seen, May 12 p 136
Power Industry Program Completed in 1951, June 30 p 106
Public Funds Hold Building Volume Up; Other Types Slip, May 26 p 127
Public Up, June 9 p 86
Publicly Financed Projects Up; Industrial Building Lags, May 19 p 116

19 p 116

Radiant Heating Market Eyed by Steel Pipe Producers*, Mar 24 p 125 Southwest, Heavy Industrial Building in 1949, Mar 10 p 170 Southwest Up, Feb 24 p 146 Spring Months Crucial Period, Jan

20 p 116

20 p 116
Steel Awards, Jan 13 p 104; Jan 20 p 112; Jan 27 p 124; Feb 3 p 170; Feb 10 p 128; Feb 17 p 136; Feb 24 p 146; Mar 3 p 155; Mar 10 p 166; Mar 17 p 144; Mar 24 p 132; Mar 31 p 124; Apr 7 p 150; Apr 14 p 133; Apr 21 p 127; Apr 28 p 135; May 5 p 146; May 12 p 171; May 19 p 148; May 26 p 128; June 2 p 126; June 9 p 114; June 16 p 143; June 23 p 121; June 30 p 108

olume Up; Materials Output Overall Drop, Apr 21 p 123

Consumer Products:
Appliance Dealers See Profits, Jan. 27 p 130
Appliance Industry Makes Coordinated Effort to Stimulate Sales, June 16 p 137
Furnace Brazing Aluminum Refrigerator Parts*, May 26 p 62
Home Appliance Products Production Cut, Apr 7 p 179
Household Appliance Field Prepares to Meet Increased Sales Resistance, May 5 p 135
Lock Design Features Zinc Diecastings*, Feb 24 p 77
Prices Slashed, Cut Output; Conversion Bloom Fades*, Mar 31 p 113

p 113

P 113 Refrigerator Prices Slashed; Com-petition Blamed, Mar 24 p 130 Westinghouse Plans More Appli-ances in 1949, Jan 20 p 120

Containers:
Heliwelding Used as Repair Tool.
Feb 17 p 92
Nailing Machine. Food Machinery
& Chemical Corp.*, Mar 17 p
101

Tin Can Manufacture Government Controls Eased, June 16 p 159 (See also Tanks, Storage)

Control of Cupola Stack Emissions, by John F. Drake, Theodore G. Kennard and W. A. Saylor*, Apr 7 p 88

Control System for Spray Painting by E. A. Zahn*, May 19 p 96

Controls: Material and Prices: Canadian Iron and Steel Price Con-trol Continuance Urged, Mar 3 p

trol Continuance Urged, Mar 3 p
164
ERP Funds For First 15 Months
Allocated. Mar 10 p 155
Iron, Steel Products Export Quotas
Removed; Regulations Unchansed. Apr 21 p 124
Marshall Plan Disappointment In
Stockpiling Items, Mar 3 p 185
Sheet Metal Consumers Against
Farm Grain Bin Allocations, Feb
17 p 142
Steel and Pig Iron Allocations Reviewed, Jan 27 p 127
Voluntary Allocations Cutbacks
Strengthens View Program is
Doomed, Mar 31 p 119

Voluntary Allocations Extension
Won't Require More Steel, Feb
24 p 137
Voluntary Allocations Programs
Cut, Mar 3 p 145
Voluntary Allocations Steel Requirements (Table), Feb 24 p 137
Voluntary Allocations To Be Extended, Feb 3 p 132
onventions:

Conventions: AFS Annual Meeting*, May 12 p 90 American Electroplaters' Society*,

June 16 p 84

American Gear Manufacturers
Assn., June 16 p 93

American Iron & Steel Institute*, June 2 p 77
AIME Annual Meeting*, Mar 3
p 104

American Steel Warehouse Assn.,

May 26 p 122 uto Engineers Hold Annual Summer Session, June 9 p 76

Summer Session, June 9 p 76
Corrosion Engineers Discuss Prob-lems*, Apr 14 p 129
Foundrymen St. Louis Meeting, Apr 21 p 71
Industrial Supply Stress Company Analysis, May 5 p 140
Malleable Founders' Society, June

23 p 120 Metal Congress and Exposition Plans, Feb 17 p 148 Metal Powder Meeting*, Apr 14

p 82 p 82 Metal Show Participating Scientists Listed, June 16 p 142 Warehouse Assn. 40th Annual Meeting, May 12 p 150 Western Metal Congress, Apr 7 p 87

Coolants: Metal Cutting Fluids*, Feb 10 p 60
Mist System Improves Cutter
Grinding*, Apr 7 p 92
(See also Machining)

Cooley Electric Mfg. Corp.: Electric Box Furnace*, Mar 24 p 92

Cooper-Bessemer Corp.: Makes Compressors For Pipe Line. Feb 3 p 197

Cooper, Herbert J.: Casting Stainless Steel Centrifugally In Permanent Metal Molds*, Jan 27 p 56

Copper: Heat Treating*, Feb 24 p 78 (See also Nonferrous Metals)

Core Baking, by Victor E. Hillman*, Feb 3 p 116

Corrosion: Engineers Discuss Problems*, Apr 14 p 129 (See also Cleaning and Finishing)

Corson, Michael G.: N:S Relationship in Endurance Testing*, Mar 10 p 103

Rise Feared By Farm Implement Makers, Jan 13 p 99

Covel Mfg. Co.: Boring Machine^o, May 19 p 103 Hydraulic Surface Grinder^o, Mar 3 p 111

E. V., S. Battaglia and H. Rottersman: Triple Surface Protection For Drawing and Ironing Alumi-num*, Mar 10 p 106

Cranes: (See Material Handling)

Crescent Truck Co.: Electric Fork Truck, May 5 p 105 Self-Loading-Scoop Truck*, Jan

Crompton & Knowles Loom Works: Core Baking*, Feb 3 p 116

Cross Co.: Automatic Special Machine*, Apr 28 p 91 Checking Thread Pitch Diameter Runout*, Mar 3 p 95 10 p 85

Double Loading Machine*, Feb 10 p 85 Drilling Machine*, Feb 24 p 101 Oil Pump Finishing*, Jan 20 p 7 Special Boring-Facing Machine' Mar 24 p 91 Tapping Machine, May 12 p 101

Crown Industrial Products Co.: Balancing Ways, Mar 3 p 115 Etcher-Demagnetizer*, June 23 p

Crucible Steel Co.: New Spaulding Works*, Mar 10 p 165 Ultra Modern Mill Opened*, May 19 p 90

Cunningham, M. E., Co.: Axle End Marker*, May 19 p 106

Cutoff Machines: Form and Cutoff Machine, Produc-to Machine Co.*, May 19 p 104 Vertical Cutoff Machine, Grob Bros.*, Feb 24 p 102

Cutting Tools,: (See Tools, Cutting)

D

DCMT Sales Corp.: Small Discasting Machine, Feb 10

Dahlstrom Mfg. Co.: Tap Chuck*. May 26 p 86 Tap Guide, Feb 3 p 127

Dake Engine Co.: Straightening Press*, Apr 21 p 88

Danly Machine Specialties, Inc.: High Production Presses*, App. 86

Davey Compressor Co.: Lightweight Compressor, Mar 3 p 114

Davidson Enamel Products, Inc.: Reorganized in Ohio, Apr 14 p 165

Davis & Thompson Co.: Milling-Centering Machine*, May 19 p 103

Dayton Rogers Mfg. Co.: Punch Press Pitman, Apr 7 p 107

Decarburizing: (See Steel, Treatment)

De Castro & Associates: Punch Press Index Feed*, Feb 3 Punch Press p 127

Degreasing: (See Cleaning and Finishing)

Delta Mfg. Div.; Grinding Polishing Machines*, Feb 3 p 126 Spot and Arc Welders, Mar 24 p 91

Deltamax A New Magnetic Core Material, by W. S. Spring*, Mar 31 p 70

Dempster Bros.: Scrap Metal Baling Presses*, Apr 28 p 93

Denfis Chemical Laboratories, Inc.: Isolating Paste, Jan 27 p 83

Denison Engineering Co.: Automatic Coil Feed*, June 9 p 70 Hydraulic Press*, Apr 28 p 92 Standardized Presses, Mar 31 p 81

Denmark: Group Study U. S. Production Methods*, Mar 10 p 174

DePierre, Vincent and Harold Bernstein: Grain Refinement In Cast Aluminum's, Jan 20 p 66

Descaling:
(See Cleaning and Finishing; Steel.
Treatment)

Despatch Oven Co.: Recirculating Type Furnace*, June 23 p 84

Detrax Corp.: Spray Washer*, Apr 28 p 93

Detroit, by W. G. Patton*, Jan 6 p

DeVilbiss Co.: Air Compressors*, Mar 24 p 93

Diamond-Detroit Inc.: Milling Cutter*, June 9 p 71

Diamonds & Tools., Inc.: Diamond Dressing Tool, Apr 14 p

Diamonds, Cutting: (See Tools, Cutting)

Dice, J. W. & Co.: Metal Analyzer*, Jan 20 p 73

Dies:

ASTE Studies Basic Metal Processing Techniques*, Mar 31 p 74
Die Cushious, Baker Bros. Inc.*,
June 2 p 85
Die Head, Landis Machine Co.*,
May 5 p 103
100 Valve Tappets A Minute*,
Feb 3 p 110
Procressive, Form House Panels
June 16 p 92
Stamping Outout Increased by
Automatic Transfer Presses*,
June 2 p 60
Surface Protection for Drawing
Aluminum*, Mar 10 p 106
Tube Cutoff Die, Vogel Tool &
Die Corp.*, May 19 p 104
Welding Scrapped Locomotive
Axles for Large Press Dies*,
June 2 p 125
Dietert, Herry W. Co.*

Dietert, Harry W. Co.: Brinell Hardness Reader, Feb 24 p 103 Combustion Tubes, Jan 20 n 74 Drying Oven*, Feb 3 p 127

Diffusion Alloys Corp.: Chromizing at 1700° to 1850°F, Jan 27 p 65

Dines Magnetic Separator Co.: Magnetic Separators*, Mar 10 p 124 Perma Plate Magnet*, Mar 3 p 113

Diversey Corp. Zinc Electro-Cleaner, Jan 27 p 82

DoAll Co.* Blade Shear*, May 26 p 86 Foundry Saw*, Apr 21 p 85

Dodge Mfg. Co.: Bushing Adapters, May 19 p 107 Take Up Bearing*, May 12 p 102

Dorman Machine Tool Works: Tapping Attachment*, May 19 p 105

Drafting Equipment: (See Engineering Equipment)

rake, John F., Theodore G. Ken-nard and W. A. Saylor: Control of Cupola Stack Emis-sions*, Apr 7 p 88

Drawing:
(See Steel, Forming and Shaping:
Nonferrous Metals, Forming and
Shaping: Presswork)

Drilling Square Holes on Lathe, by Joseph Albin*, Mar 17 p 98

Drilling and Drilling Machines:
Adjustable Fixture Increases Utility
of Special Purpose Machine*, Jan
20 p 61
Core Drill Cutter, Scully Jones &
Co.*, June 30 p 67
Core Drill, Super Tool Co., Mar 17
p 99

Drill Set, Keo Cutter*, May 5 p

104
Drilling Machine, Cross Co.*, Feb. 24 p 101
Midget Rotary Drill, Master Pneumatic Tool Co., May 19 p 105
Oil Circulating Drill Head, U. S. Drill Head Co.*, Apr 7 p 108
Special Drilling Machines, Govro-Nelson Co.*, Mar 10 p 123
Square Holes on Lathe*, Mar 17 p 98

Tapping Machine, Snyder Tool & Engineering Co.*, Mar 10 p 121 (See also Machinery and Machine Tools)

Driver-Harris Co.: New Alloy, May 26 p 89

Driving and Controlling A Modern Strip Pickling Line, by J. Ray-mond Erbe*, Jan 13 p 46

Drumobile Div.: Drum Carrier*, Apr 7 p 108

Dry Lime Treatment of Waste Pickle Liquor, by C. J. Lewis*, Jan 20 p 48

DuBois Co.: Metal Cleaning Compounds, Feb. 3 p 129 Spray Booth Compound, May 5 p 103

Ductile Cast Iron—A New Engineering Material, by Albert P. Gagnebin, Keith D. Millis and Norman B. Pilling*, Feb 17 p. 76

Duff-Norton Mfg. Co.: Flame Beveler Positioning*, June 9 p 65 Power Jacks, June 2 p 87

Du Mont Corp. Keyway Broaches and Bushings. Mar 10 p 122

duPont, de Nemours, E. I. & Co., Inc.: Vitreous Enamels for Aluminum. Jan 13 p 57

Durall Tool Co.: Indestructible Folding Rule, Mar 24 p 94

E

Eastern Industries, Inc.: Centrifugal Pump, Feb 3 p 127 Side Entering Mixer*, May 26 p 88

Ebert, L. J. and R. E. Speer: Heat Treatment of Aluminum Casting Alloys*, (2 parts), Mar 3 p 88; Mar 10 p 110

A Compliment, June 23 p 57 A Solution, Feb 10 p 57 Another Deal, May 26 p 59 Case History, Mar 10 p 95 Compromising with Defense, Jan 20 p 45 Euthanasia Editorials: 20 p 45 Euthanasia, June 30 p 39 Fair Play, Jan 13 p 39 Full Employment, May 12 p 75 Honest Dollar, Feb 3 p 99 1 Would, June 2 p 57 International Bureaucracy, Mar 17

Inviting Unemployment, June 9 p. 44
Nationalization, Jan 27 p 53
Notice to Aggressors, Mar 31 p 55
Our Cake, Apr 21 p 59
Papa Knows Better, Apr 7 p 79
Poverty for All, Jan 6 p 157
Production For Use, Feb 17 p 73
Real Danger, June 16 p 75
Reliable Service, Mar 3 p 85
Security, Mar 24 p 65
Self-Adjustment, the Test, Apr 14
p 63

p 63 Socialist Sappers, May 5 p 75 Sterline Devaluation, Apr 28 p 63 Two Faces, May 19 p 77 Wanted An Opposition, Feb 24 p 62

Effect of Contamination on Quenching Media by Howard E. Boyer*, May 5 p 88

Eisler Engineering Co., Inc.: Spot Welder*, Mar 10 p 122

Elastic Stop Nut Corp.: High Temperature p 75

Electric Controller & Mfg. Co.: High Voltage Motor Starter*, Jan 27 p 80 Lifting Magnet Controller, Apr 28

Elwell-Electric Indicator Co.: Synchronous Motors, June 2 p

Light

Low-Roll-Ma

Two-

Emmet High 73

Pres

Ename

Ename

Enama B T

Engin

Ind T Wh

Engin Agy

Alle

Del

Engir

(H

Engl

Entl

Enz

Equ

Equ

Erb

Ert

Electric Machinery Mfg. Co.: Induction Motors, Jan 20 p 71

Electric Paint & Varnish Remo Immersion Thermometer, May p 107

Electrical Equipment:
Army Developments, Feb 10 p
Battery Charger, Westinchos
Electric Corp., Apr 21 p
Clamp Anumeter-Voltmeter, W
ton Electrical Instrument Corp. W

ton Electrical Instrument Corp. May 19 p 105
May 19 p 105
Control Transformers, Square Co.*, Feb 24 p 103
DC Pneumatic Timers, Square Co., Apr 14 p 89
Delayed Action Control Uni
Photoswitch Inc.*, June 16 p 10
Device Approaches Static D
Egansformer, Jan 13 p 107
Electrical Connectors, Mines Equi
ment Co., Mar 31 p 85
Electrical Wiring Conduit, B.
Goodrich Chemical Co., Apr., p 91

Electrical Wiring Conduit, B. F. Goodrich Chemical Co., Apr. J. P. Poot Switch, Simonds Machine G. June 9 p. 73
High Voltage Motor Starter, Elstric Controller & Mig. Co.* J. b. 27 p. 80
Industrial Circuit Breakers, Wetinghouse Electric Co.*, May 1 p. 104
Magnetic Drum Separators, Eric

tinghouse Electric Co.*, May 1: p 104
Macretic Drum Separators, Eris Mfg. Co., Jan 27 p 80
Program Controller, Taco West Corp.*, May 5 p 103
Proper Battery Maintenance Cut. Industrial Truck Operating Costs*, Mar 10 p 118
Rectifier Power Supply, Power Equipment Co., Mar 10 p 124
Selenium Rectifiers, Fansteel Metal lurgical Corp., Jan 27 p 79
Spectrographic Power Source, Improved*, Apr 21 p 84
Two Unusual Material Handling Systems*, Apr 14 p 76
Wire Terminal Kit, Lynn Products Co., June 16 p 104

Electrodes: Electrodes: Electrode Holder, R. R. Mallory & Co., Inc.*, May 19 p. 106
Improved Electrodes, P. R. Mallor, & Co., Inc., Inn. 16 p. 102
(See also Welding)

Electromode Corp.: Explosion-Proof Heater, Apr. 14 92

Electronic Equipment:
Deltamax—A New Magnetic CorMaterial*, Mar 31 p. 70
Electronic Control Unit, Hydraul
Research & Mfg. Co.*, Mar 24 (See also Electrical Equipment)

Electroplating:
Chromium Plating Machine, W. S.
Rockwell Co.*. May 26 p 85
Direct Nickel Plating of Zinc
Diecastinus. Feb 24 p 84
Electrolytic Timing Bath Studied.
June 23 p 64
Electropolishing Brass*, June 30 p

48
Hard Chrome, Milling Machine Quills*, June 16 p 96
Magnetic Cobalt-Nickel Alloys of Wire*, June 9 p 49
Metal Finishing*, Jan 6 p 275
Metallurgy and Heat Treatment Cutting Too's*, (Part II), Jan 13 p 6
Milwankee Convention*, June 16 p 84

Perflow Process, Plating Easily Buffed Nickel*, June 16 p 86 Waste Disposal*, June 16 p 79 (See also Cleaning and Finishing

Electropolishing Brass, by G. Axtell*, June 30 p 48

Eliminating Pickling Room Fog. 1 J. T. Bolger*, May 26 p 79

Elox Corp.: Broken Tool Remover*, Jan 20 p

Elwell-Parker Electric Co.: and Boom Attachments, Apr 7 p 108 Lightweight Truck, Jan 27 p 8.8 Low-Platform Truck, Jan 13 p 66 Roll-Handling Truck Attachment*, Mar 10 p 124 Two-Way Fork Attachment*, June

2 p #

p 71

Remove May 1

10 p

Corp.

tare

uare

Unit 6 p 10 c De 07

Equi

B. F

ine C

Ele

We Lay

Eri

We

ratin Powe Metal 9 1, In

ndlin

aller

121

V. S

Zin

died

30

8 (1)

16 1

silv

ing

Har

0 ;

Emery, A. H., Co.: Hydraulic Crane Scales*, June 16 p 103

Emmett Machine & Mfg. Inc.: High-Pressure Valves, June 9 p Press Control Unit*, Mar 31 p 84

Enamel, Porcelain: (See Porcelain Enamel)

Enameling: (See Cleaning and Finishing)

Enamaling Auto Window Moldings By Electrostatic Spray, by Thomas S. Blair*, Feb 10 p 75

Engineering Equipment:
Contour Measuring Machine, Measuring Machines, Inc.*, Mar 10 p 122 Indestructible Folding Rule, Durall Tool Co., Mar 24 p 94 Whiteprinter, Charles Bruning Co., Inc., Mar 17 p 103

Engineering Materials: Aggregate Making Methods, Feb Aggregate Making Methods, Feb. 3 p 184 Alloy, Driver-Harris Co., May 26 p 89

p. 89 Deltamax A New Magnetic Core Material*, Mar 31 p. 70 Ductile Cast Iron*, Feb. 17 p. 76 Powder Metalluray*, Mar 24 p. 72 Powder Metalluray No Panacea*, Mar 24 p. 68

Engines:

Agines:
Connecting Rods, Fracturing Assures Perfect Alignment*, May 5 p. 81
Oldsmobile Uses Modern Gaging Techniques In Producing New*, Feb. 10 p. 78
Vertical Shaft Engine, Clinton Machine Co.*, June 2 p. 86

England:

Displays Road Making Machinery*, Jan 27 p 125

Economy Faces More Rigidity, May 12 p 126

Federation Anticipates Steel Supply Easing, June 2 p 124

Forcion Markets Lost to Relgium Creates Problem, Mar 31 p 106

Forcing Techniques, Ours to be Studied June 16 p 140

Foundry Group Completes Tour*, May 5 p 142

Foundrymen Tour U. S. Industrial Centers*, Mar 24 p 123

Plants in Canada Follow Easing of Currency, Mar 10 p 172

Steel Industry Subsidy Abolished:

Prices up 9 Pet, Apr 21 p 125 England .

Engraving Tools: (See Marking Equipment)

Ensign, E. E.: How Ford Produces Parts From Metal Powders*, Mar 24 p 76

Enthone Inc.: Enamel Strippers, Jan 20 p 75 Metal Stripper, Mar 10 p 125 Nylon Anode Bags, May 12 p 105

Enzian, George H. and Simon Feigenbaum: Nitrogen in Steel*, June 30 p 52

Equipment Mfg. Co., Inc.: Pallet Racks, Jan 13 p 69

Equipto: Steel Work Bench, June 30 p 69

Erb & Gray: Micro-Hardness Tester*. Feb 24 p 102

Erbe, Raymond J.: Driving and Controlling A Mod-ern Strip Pickling Line*, Jan 13 p 46

Erickson Tools Div.: Collet Chucks*, June 9 p 71 Holding Fixture, Jan. 27 p 81

Eriez Mfg. Co.: Magnetic Drum Separators, Jan 27 p 80

Errington Mechanical Laboratory, Inc.: Adjustable Tapping Head*, Apr 28 p 94

Euclid Universal Machine: Speed Reducer, Mar 31 p 82

Europe:
Atlantic Pact Provides Maximum
Deterrent to War by Collective
Action, Mar 24 p 116
Atlantic Relations Reach Turning
Point, Mar 17 p 124
Confidence in American Foreign
Policy Wavering, Feb 24 p 128
Finished Steel Leads Industrial
Recovery, May 26 p 146
Foreign Aid Termination to Shock
European Economic System, Jan
20 p 96
German Plant Dismantling Agreement Altered, Apr 21 p 121
Non-Communist Resources Necessary to Check Communist Expansion, Jan 27 p 104
Norway Provides Test of West's
Diplomatic Strength, Feb 17 p
124
Pound Sterling Again Among

Pound Streling Again Among World's Currencies, Jan 6 p 300 Productivity Increased By Technical Journals, Feb 10 p 94 Reflects A me ri c a n Economies Chances, Apr 14 p 122 Russin Received 500 Tons American Zone Equipment in 1948, Mar 17 p 142 Scientific Weapons Used in Future War., Apr 21 p 110 Scrap Collection Urged, Leaner Ores Use, Mar 17 p 137 Tito Between Two Economie Worlds; Western Nations Hesitating on Credit, June 16 p 178

European Recovery Program:
Aluminum and Lead To be
Tighter in Marshall Plan Countries, Feb 3 p 161
Austrian Continuous Billet Mill,
Iron Ore Mining Funds Authorized, June 9 p 112
Authorizations Total \$2.5 Billion.
60 Pet Shipped, June 23 n 119
British Cobalt Output Gets Funds,
Apr 28 p 130
British Iron and Steel Plant
Equipment Funds Approved,
June 9 p 103
Coal Production Essential Factor,
Iune 9 p 127
ECA Authorizations Hit Weekly
Low; Shipments Lag, Apr 21
p 148

Low: Shipments Lag, Apr 21 p 148
ECA Buying Done by Special Missions for Governmental Use, May 12 p 154
ECA Financing to Provide 60 Pet Western Europe's 1949-50 Imports, Apr 7 p 116
ECA Goods Delivery Extension, Apr 14 p 151
ECA Machine Tool Orders Increase, Mar 10 p 181
ECA Selected Authorizations and Reported Shipments, by Commodity and Marior Destinations, (Table) March 10 p 155
ECA Signs Industrial Guaranty Contract, June 2 p 121
Electric Power Expansion in Europe, Funds Allocated, June 2 p 152

Contract, June 2 p 121
Electric Power Expansion in
Europe, Funds Allocated, June
2 p 152
Eorope's Aluminum Needs Studied,
Feb 17 p 132
European Power Plants Receive
Abbroordation, Apr 21 p 122
Fovei'm Firms' Modernization and
Plant Expansion Approved, Apr
14 p 102

Plant Expansion Approved, Apr 14 p 102 France Receives Authorization for Our Equipment, Materials, June 2 p 118 French Iron Steel Production Ex-nansion Funds Approved, June 23 p 96 Funds For First 15 Months Allo-cated, Mar 10 p 155 Metal Goods Included: \$5.1 Bil-lion Total, May 5 p 144 Ruhr Suggested to Produce Oil Equipment, Jan 20 p 105

Steel Authorization Total \$129 Million Under Marshall Plan, June 23 p 114

Eutectic Welding Alloys Corp.: Aluminum Welding Alloy, Mar 10 p 125 Aluminum Welding Alloy, May 26 p 86 Cast Iron Filler, June 16 p 102 Silver Alloy, Feb 17 p 103

Evans, U. M.: Brass Rods*, Apr 14 p 66

Evolution of the Reversing Hot Strip Mill, by T. W. Lippert*, May 19 p 86

Excelsior Tool & Machine Co.: Sheet Grinder-Polisher*. Jan 27 p 80

Exports and Imports:
Aluminum and Lead Imports Continue to Grow, Feb 10 p 148
Canadian Exports Up Over 1948
Period, June 9 p 103
Exports Drop During November, Feb 3 p 174
Export Wire Products Regulations Changed, June 9 p 82
Imported Tin-Bearing Alloys, New Policy, Mar 24 p 126
Iron and Steel Exports Decline 50,000 Tons During February, May 19 p 152
Iron and Steel Exports for March Highest Durin; First Quarter, June 2 p 134

Highest During First Quarter, June 2 p 134 Iron, Steel Export Market Changes Lune 16 p 139 Iron, Steel Imports Decline; Scrap Material Increased, June 2 p

141
Iron, Steel Quota Restrictions, 22
Items Lifted, June 2 p 116
Iron and Steel Tons Exported
During 1948, Mar 3 p 151
March Iron, Steel Imports Drop;
Scrap Up 35,000 Tons, June
16 p 152
Nonlerrons Third Ouarter Export
Quota, June 9 p 136
Steel Imports Climbing, Feb 24
p 152

Steel Imputs
p 152
Steel Shipment Licenses Granted,
Jan 27 p 113
Steelmakers See Good Prospects
for Balance of Year, June 2 p

Total Iron and Steel Up for Lan-Some Scran Shipped, Apr 28 p 132 U. S. Exports Increase Durin-March, May 26 p 121

F

Fab-Weld Corp.: Bridge Plates*, Mar 24 n 94

Factory Service Co.: Scrap Truck*, June 9 p 72

Fansteel Metallurgical Corp.: Selenium Rectifiers, Jan 27 p 79

Farm Equipment:
British Tractor Makers Fill Orders
from Stock, Aur 14 p. 122
Brying Decline Seen Threat To
Steel, May 13 p. 141
Makers Expect Good Vear, Fear
Rising Costs, Ian 13 p. 99
Shortage End Expected in 1949;
Few Factory Cnt-Backs, Mar 24
p. 102

Fast Methods for Cleaning Bear-ings, by Joseph Albin*, May 26 p 73

Fasteners: k Wire Co., Mar 24 p 95 com Merged Into Competitive Market for Makers, May 19 p

Canada Completes Nail Increasing
Output Deal, Apr 28 p 126
Expansion Speed Nuts, Tinnerman
Products, Inc., Feb 17 p 103
High Temperature Nuts, Elastic
Stop Nut Corp., Jan 20 p 75
Nail Market Slides, Mar 3 p 126
Parallel Clamp, Burndy Envineering Co., Inc.*, June 2 p 86
Serew Sticks, American Screw
Co.*, June 16 p 104

Self-Locking Retainer, Waldes Kohinoor, Inc.*, Mar 24 p 94 Speed Clip, Tinnerman Products, Inc.*, June 16 p 104 Speed Nut Retainer, Tinnerman Products, Inc.*, Feb 3 p 128 Spotweld Nuts and Screws, Ohio Nut & Bolt Co.*, May 19 p 105

ansition Problems In Producing The Unified Screw Thread*, Feb. 24 p 66 (See also Riveting)

Fauver, J. N., Co.: Grease Lubricator, June 2 p 85 Portable Transfer Unit*, May 12 p 104

Federated Metals Div.: Machine-Cast Bar Solders, May 26 p. 89

Feedall Machine & Engineering Co.: Automatic Hopper Feed*, Mar 31 p. 83

Feigenbaum. Simon and George H. Enzian: Nitrogen in Steel*. June 30 p 52

Felt Products Mfg. Co.: Sealing Material, June 2 p 87

Ferroalloys:
Canadian March Production Sets
All-Time High, June 2 p 151
Canadian Production. November.
Jan 27 p 122; 1948 total, Feb
24 p 139

Ferromanganese: Raises Price, Mar 10 p 148

ilters:
Electronic Gas Filter, Trion, Inc.*,
Feb 17 p 102
Metal Filter Cloth, Michigan Wire
Cloth Co., May 19 p 107
Wire Filter Cloth, John A. Rochling's Sons Co., June 23 p 87

Finishes: (See Cleaning and Finishing: Por-celain Enamel)

Fischer & Porter Co.: Flow Guide', May 5 p 103

Fisher Scientific Co.: Steel Test Benches, June 23 p 87

Fittings: (See Valves and Fittings) Flagler, Roy G., Mfg. Co.: Lock Forming Machine, Mar 10 p 121

Flame Cutting: Flame Beveler Positioning', June 9 p 65 Machine Gas-Cutting Discussion, Mar 24 p 135

Flame Hardening: (See Steel, Treatment)

Flett, James: Profits in Scrap*, Mar 17 p 86

Flux:
Liquid Flux, British
Corp., Feb 17 p 103
(See also Brazing, Welding)

Velding)

F.O.B. Mill, by D. I. Brown*, Jan

oil:
Aluminum Rolling Mills Bought
by Swiss Firm, May 12 p 142
Aluminum, West's Only Mill
Opens, June 23 p 98
German Mill Equipment Rolling
for Kaiser, May 12 p 140
Permanente Metals Co. Mill Expected Soon, Jan 13 p 82
Rolled Aluminum, Feb 10 p 143

Follansbee Steel Corp.: Steel Net Dips, Apr 14 p 165

Food Machinery & Chemical Corp.: Nailing Machine*, Mar 17 p 101

Foote Mineral Co.: Reiractory Metals. Vapor-Phase Deposition*, June 16 p 98

Ford Motor Co.:
Machining Axles*, Apr 28 p 72
100 Valve Tappets A Minute*,
Feb 3 p 110
Parts From Metal Powders*, Mar

24 p 76 Pressed Metal Powder Applica-tions in the Automotive Indus-try*, Mar 24 p 86

Foreign Relations: (See Europe; European Recovery Program)

Forging Crankshafts One Throw at a Time, by H. Malcor*, June 23 p 71

Forging:
ASTE Studies Basic Metal Proc-essing Techniques*, Mar 31 p 74 British Productivity Te am to Study Our Practices, June 2 p 120

120 Crankshafts One Throw at a Time*, June 23 p 71 Drop Hammer Rod Clamp, Cham-bersburg Engineering Co.*, Mar

bersburg Engineering Co.*, Mar 17 p 101 English Team To Study American Methods, June 23 p 126 English to Study Our Techniques, June 16 p 140 Hardening and Forging, Heating with RF Equipment*, Feb 17 p 87

p 87 Industry Feels Less Demand From Cost Conscious Buyers, May 12

p 133
Production Processes, High Speed
Motion Pictures Aid in Analysis*, May 5 p 82
200,000 h Alloy Steel Pressure
Vessels*, Jan 27 p 73

Vessels*, Jan 27 p 73

Forming and Shaping:
Bender Cabinet, O'Neil-Irwin
Mfg. Co., June 9 p 71
Form-Bar Bender, W. R. Scott &
Son*, Feb 3 p 125
Plate Bending Rolls, Reed Engineering Co.*, Feb 10 p 85
Radius Brake, O'Neil-Irwin Mfg.
Co.*, Jan 27 p 80
Straightening Machine, F. J. Littell Machine Co.*, Jan 27 p 80
Vertical Bending Roll, Webb
Corp.*, Jan 20 p 72
(See also Nonierrous Metals,
Forming and Shaping)

Foundry:

Foundry:
Alloy Steel Castings, Talgo Train
Makes Extensive Use*, June 9

Alloy Steel Castings, Talgo Train Makes Extensive Use*, June 9 p. 58

Annual Meeting*, May 12 p. 90

British Group Completes Tour*, May 5 p. 142

British Men Tour U. S. Industrial Centers*, Mar 24 p. 123

Bronze, Realizes Savings By Modernizing Melting Furnaces*, Feb. 3 p. 122

Cast Ferrous Materials for Subzero Service*, June 9 p. 46

Casting Sealant, General Electric Co., June 9 p. 73

Casting Stainless Steel Centrifugally In Permanent Metal Molds*, Jan 27 p. 56

Core Baking*, Feb. 3 p. 116

Core Baking* Tunnel, Induction Heating Corp.*, Mar 24 p. 91

Core Binder, American Cyanamid Co., Apr 14 p. 93

Core Drier, Allis Chalmers Mig. Co.*, June 23 p. 83

Core Sand Testing Equipment, Precision Scientific Co.*, Apr 21 p. 85

Cupolas Stack Emissions, Control of Apr 7 p. 88

Cupolas, Water Cooled, June 9 p. 41

Dielectric Core Dryers Assist

Cupoias, trade 41
Diclectric Core Dryers Assist
Foundrymen, June 16 p 143
Draper Corp. Closed, May 13 p

4

141
Ejector Pins, Jamison Steel Corp.,
Jan 20 p 72
Fixtures and Patterns, Protected
in Open Storage*, June 30 p 55
Flexible Gate Material, Key Co.,
Apr 7 p 109
Grid Casting Improves Battery
Life*, June 9 p 62
Heat Abstraction, Determining by
Molding Materials*, Apr 21 p 74
Heat Treatment of Aluminum
Casting Alloys*, (2 Parts), Mar
3 p 88; Mar 10 p 110

Hot Tearing of Aluminum Cast-ings, Feb 24 p 100 Intermittent Oxygen Enrichment of the Cupola Blast*, May 12

96 Pin Lifter, Milwaukee Foun-ry Equipment Co.*, Apr 7 p

Magnesium Treatment for Nodular Graphite Cast Iron*, Feb 24 p

Graphite Cast Iron*, Feb 24 p 97
Malleable Founders Stress Market Need, June 23 p 120
Nodular Iron Studied by Malleable Group, Apr 7 p 149
Oxygen Added to the Cupola Blast, May 26 p 65
Oxygen Enriched Cupola Blast, Mar 31 p 69
Pneumatic Vibrators, Cleveland Vibrator Co.*, Apr 21 p 86
Pouring Heaters, Sta-Warm Electric Co.*, Apr 28 p 93
Power Draw Machine, Tabor Míg. Co.*, Feb 17 p 101
Precision Casting with Frozen Mercury Patterns*, Mar 17 p 94

Mercury Patterns*, Mar 17 p 94
Production Off; Above Prewar Status, May 26 p 130
St. Louis Meeting, Apr 21 p 71
Sand Conditioner, Beardsley & Piper Div.*, Mar 24 p 93
Sand Riddle, Roller Riddle Corp.*,

Jan 27 p 80 Saw, DoAll Co.*, Apr 21 p 85

Saw, DoAll Co.*, Apr 21 p 85 Strainer Cores, American Lava Corp., Mar 10 p 125 Westinghouse Capacity Boosted*, Jan 13 p 55 (See also Casting)

France:
Key to Economy is Courageous.
Honest and Firm Government.
Jan 13 p 88

Fray Machine Tool Co.: Milling Attachment*, Apr 28 p 94

Frick-Gallagher Mfg. Co.: Storage Bins*, June 30 p 68

Frost Paint & Oil Corp.: Non-Slip Paint, Feb 3 p 129

F.R.P. Corp. : Fire Retardant Paint. Apr 7 p 109

Answers on Freight Absorption Controversy, Mar 3 p 148A FOH Mill Selling Not Favored, Jan 27 p 132 Freight Absorption, Against Legis-lation, Jan 13 p 76

uel:
Coal Stocks Influence Bargaining
Strategy*, June 23 p 121
Harry Moses Chosen Coal Czar,
June 16 p 135
Japanese Taking Bids on Heavy
Coking Coal, Mar 3 p 148
Natural Gas Industry Seeks Steel
Demand Break, Mar 17 p 139
New Coal Washing Plant Feeds
Republic Furnaces*, Mar 17 p
142

142
Pig Iron Prioe Testing Due After Steel, Coal Negotiations Settled, June 23 p 115
Producing Gas from Coal, Underground Test to Determine Feasibility, Mar 24 p 32
Stainless Steel Coal Conveyer Belts Tests Scheduled, June 16 p 133
U. S. Metallurgical Coal, Export Urged to Marshall Plan Nations, Mar 17 p 134 Mar 17 p 134 Utah Coal Reserve for Kaiser, June

23 p 98 Utah Potential High-Grade Coking Coal Found, June 30 p 110

Fuerst, S. B.:
Milling Supercharger Bucket
Blades From Bar Stock*, June 23 p 60

Furnace Brazing Aluminum Refrig-erator Parts, by J. N. Woolrich*, May 26 p 62

Furnaces, Blast: urnaces, Blast:
Capacity and Production, November, Jan 6 p 309; December, Feb 10 p 124; January, Mar 10 p 158; February, Mar 31 p 118; March, May 5 p 135; April, June 2 p 121; May, June 30 p 102 Earthquake-Proof Mantle Support*, Mar 10 p 120
Jet Caster Speeds Tap Hole Opening*, Feb 17 p 85
Kaiser-Frazer Operates on Curtailed Bases, May 12 p 118
Operators Study Processing Variables*, Apr 28 p 78
(See also Steel, Production) Earthquake-Proof port*, Mar 10 p

Furnaces, Heat Treating:
Beryllium-Copper*, Feb 24 p 78
Heating Seamless Tubes For Sizing*, Apr 14 p 86
Induction Hardening Mill Rolls,

Jan 27 p 71

Isothermal Quench Furnace, Ajax
Electric Co.*, May 5 p 101
(See also Heat Treating; Nonferrous Metals, Treatment; Steel, Treatment)

Furnaces, Melting: Bronze Foundry Realizes Savings By Modernizing*, Feb 3 p 122 Melting and Casting Titanium*, Jan 13 p 58 13 p 58 Molybdenum - Vacuum olybdenum · Vacuum Furnace, Pereny Equipment Co.*, June 23

Portable Electric Furnace, Jelrus Co., Inc.*, Mar 17 p 100

Furnaces, Openhearth:
Bethlehem Pacific New Pit Lighting Tried, June 30 p 80
Fused Ore for Apr 7 p 82
Operators Study Processing Variables*, Apr 28 p 78
Turbo-Hearth*, Apr 21 p 63
(See also Steel, Production)

urnaces, Processing:
Brazing Aluminum Refrigerator
Parts*. May 26 p 62
Electric Box Furnace, Cooley Electric Mfg. Corp.*, Mar 24 p 92
Electric Furnace, Modern Electric Laboratory*, May 5 p 102
Electric Furnace, Pereny Equipment Co.*, Apr 28 p 93
High Temperature Microscopy. Feb 10 p 74,
Induction Heater, Ajax Electrothermic Corp.*, Feb 10 p 84
Muffle Furnaces, Hevi Duty Electric Co.*, May 19 p 104
Porcelain Enameling At Lustron*,
Apr 14 p 72 Furnaces, Processing:

Porcelain Enameling At Apr 14 p 72
Apr 14 p 72
Recirculating Type Furnace, Despatch Oven Co.*, June 23 p 84
Salt Bath Brazing*, June 9 p 66

Fused Ore for the Openhearth, by E. S. Kopecki*, Apr 7 p 82

G

Gages: (See Instruments)

Gaging 125 Valve Tappets Per Min-ute, by Herbert Chase*, May 26 D 66

Gagnebin, Albert P., Keith D. Millis and Norman B. Pilling: Ductile Cast Iron—A New En-gineering Material*, Feb 17 p 76

Gair, Robert, Co., Inc.: Packaging Material, June 9 p 73

Gairing Tool Co.: Micrometer Adjusting Nut*, June 30 p 66

Gallmeyer & Livingston Co.: Cutter and Tool Grinder*, Mar 17 p 100

Galvanizing: (See Cleaning and Finishing)

Gar Wood Industries, Inc. Hydraulic Pump Gears*, Cutting Hydra May 12 p 94

Gas, Fuel: (See Fuel)

Gates Rubber Co.: Welding Hose, Mar 3 p 113

Cutting, Hydraulic Pump*, May 12 ear Gaging Device, Michigan Tool Co.*, Jan 27 p 81 Gear Hobber, Hamilton Tool Co.* May 5 p 101 Hobbing Large Bull Gears*, June 9 p 86 Standardization, AGMA Urges, June 16 p 93 (See also Machining; Shaping)

Gordon, Therm p 10

Gould S

16 1 OVTO-N

Specia p 1

Graham

Graham

3 p Varia

23

by Be

Grant, Tung

Gray C

Graym

Great Fus A

Great

Green

Grind Abi

C

Cy

General Detroit Corp.: Dry Chemical Extinguisher, June 16 p 105

General Electric Co.:
Arc Welders*, Apr 7 p 106
Casting Sealant, June 9 p 73
Perflow Process, Plating Easily
Buffed Nickel*, June 16 p 86
Sales Up 13 Pct in 1948, Mar 31
p 144
Spoke Departy Indicator Smoke Density Indicator, Apr 7 p

Supercharger Bucket Blades, Milling From Bar Stock*, June 23 p 60 109

Thickness Gage*, Apr 21 p 87 Unit Bearing Motors, Mar 24 p 95 Unit-Cooled DC Motors*, Apr 28

General Motors Corp.:
Hydraulic Standards Benefit Metalworking Industry*, Apr 7 p 100
Pressed Metal Powder Applications
Automotive Industry*, in the Automotive Mar 24 p 86 Show*, Jan 20 p 107

General Scientific Equipment Co. Carboy Tilter*, June 16 p 104

Generators: (See Plant Equipment)

Geneva Steel Co.: First Hot Rolled Coils Rolled, Jan 6 p 308

Geometric Tool Co.: Aligning Shank Die Head*, Mar 3 p 113 Chaser-Clip*, Mar 24 p 94

Gerlach, Frank A.: Laundry Machinery Redesigned for Welded Construction*, May 5 p

Germany: ermany:
Aluminum Clad Mills Resume Production, Mar 3 p 99
Hollow Steel Ingots, Centrifugally Cast, May 26 p 81
Industry Show Supported by Export-Import Agency, Mar 3 p 166
Plant Dismantling Agreement Altered, Apr 21 p 121
Steel Output to Reach 10 Million

tered, Apr 21 p 121
Steel Output to Reach 10 Million
Tons, Feb 10 p 161
Use Scrap Pipe for New Industry*,
Mar 24 p 131

Gerotor May Corp.: Oil Pilot Valves*, May 5 p 102

Getting the Most Out of Friction-Type Bearings*, by H. L. Smith, Mar 3 p 96

Gilbert, A. C., Co.: Brass Powder Parts In Toys, Mar 24 p 71

Gillespie, J. S.: Carbide Insert Cutting Tools*, May 12 p 84

Gisholt Machine Co.:
Hydraulic Automatic Lathe*, May
19 p 103

Glenbard Tool Mfrs., Inc.: Tool Grinding Machine*, Feb 10 p 83

Glen-Roberts Co.: Arc Welders*, Apr 14 p 90

Goodman, Bernard, S. A. Sheridan and John A. Halgren: Practical Application of Stress Analysis at I-H*, Mar 17 p 76

Goodrich, B. F. Co.: Brake Lining Adhesive, Apr 28 p 95

Goodrich, B. F., Chemical Co.: Electrical Wiring Conduit, Apr 28 p 91

Gordon, Claud S., Co.: Thermocouple Indicator, May 12 p 105

Gould Storage Battery Corp.: Translucent Battery Plug, June 16 p 105

Govro-Nelson Co.: Special Drilling Machine*, Mar 10 p 123

Graham, H. W. and E. C. Bain: Turbo-Hearth, The*, Apr 21 p 63

Graham Mfg. Co., Inc.: Vises, Mar 3 p 115

1 Co.*

, June

Urges.

, June

Easily

far 31

pr 7 p

Mill

ne 23

p 95 pr 28

Metal

Co.

Jan

lar 3

for 5 p

Pro

ally Ex-

Al-

lion

rye

far

s*.

lav

10

an

p

28

ng

Graham Transmissions Inc.: Variable Speed Transmissions, Feb 3 p 127 Variable Speed Transmission, June

Grain Refinement In Cast Aluminum by Vincent DePierre and Harold Bernstein*, Jan 20 p 66

rant, N. J and R. D. Potter: Tungsten Molybdenum The couples*, Mar 31 p 65 Thermo-

Gray Co., Inc.: Air Operated Pump*, June 2 p 85

Graymills Corp.: Centrifugal Pumps, Feb 17 p 103

ireat Lakes Carbon Corp.: Electrode Output Increased, June 9 p 135

Great Lakes Steel Corp.: Fused Ore for the Openhearth*, Apr 7 p 82

Great Western Tools, Inc.: Punch and Die Units*, May 19 p

Greene, Tweed & Co.: Reversible Ratchet Wrench, June 16 p 105

reenville Tool & Die Co.: Milling Machine Adapter*, Apr 7 p 108

grinding and Grinding Machines:
Abrasive Wheel, American Diamond
Saw Co.*, June 23 p 85
Attachment, R. G. Haskins Co.,
Apr. 7 p 107
Automatic Feed, Bennett Equipment Co.*, Feb 24 p 105
Bearings, How Link Belt Produces Ball and Roller*, (2 parts),
June 23 p 74 and June 30 p 58
Carbide Tool Grinder, Willey's
Carbide Tool Grinder, Willey's
Carbide Tool Grinder, Gallmeyer & Livingston Festive,
Royal Oak Tool & Machine Co.*,
Feb 3 p 128
Cutter and Tool Grinder, Gallmeyer & Livingston Co.*, Mar
17 p 100

Cutter and Tool Grinder, Gallmeyer & Livingston Co.*, Mar 17 p 100
Cylindrical, Speeds and Feeds To Use*, Mar 3 p 100
Diamond Dressing Tool, Diamonds & Tools, Inc., Apr 14 p 93
End Form Machine*, Mar 10 p 102
Fixture, Madison Mfg. Co.*, Feb 24 p 103
Grinder-Miller, Precise Products Co., Inc.*, Apr 14 p 91
Grinding Attachment, Royal Oak Tool & Machine Co.*, Mar 17 p 100
Hydraulic Knife Grinder, Samuel C. Rogers & Co., Feb 17 p 100
Hydraulic Surface Grinder, Covel Mfg. Co.*, Mar 3 p 111
Insert Grinding Fixture, Super Tool Co.*, Apr 14 p 91
Lightweight Grinder, Aro Equipment Corp., May 19 p 105
Machine, Cincinnati Grinders, Inc.*, June 30 p 65
Mist Coolant System Improves*, Apr 7 p 92
Perforator Grinding Fixture, Harig Mfg. Corp.*, Feb 3 p 128
Profile Grinding Machine, Rice Pump & Machine Co., Apr 7 p 105
Roll Grinders, Ryman Engineering

Roll Grinders, Ryman Engineering Co.*, Apr 14 p 89 Scale Knife Edges and Bearings, Machining*, June 9 p 50

Surface Grinder, Jakobsen Tool
Co.*, Apr 7 p 105
Surface Grinders, Thompson
Grinder Co.*, May 5 p 101
Tool Grinding Machine, Glenbard
Tool Mfrs., Inc.*, Feb 10 p 83
Wear Proofing Centerless Grinder
Rests, May 5 p 100
Wheel Dresser, Matco Tool Co.*,
Apr 7 p 106
Wheels, Mansco Grinding Wheel
Co., Feb 3 p 126
(See also Machining and Machine
Tools)

Grob Bros.: Vertical Cutoff Machine*, Feb 24 p 102

Grobe, Arthur H. and George A. Roberts: Prealloyed Steel Powders*, Mar 31 p 78

Guide to Colorimetric Methods of Analysis, by Louis Silverman*, Apr 29 p 88

Guy, A. G.:
Predicting Carbon Penetration
Curves in Carburizing*, Jan 27 p

H

Haiss, George Mfg. Co.: Package Conveyer, Jan 13 p 65

Halgren, John A., S. A. Sheridan and Bernard Goodman Practical Applications of Stress Analysis at I-H*, Mar 17 p 76

Hamer-Dril Co.: Power Hammer Adapter*, Mar 17 p 102

Hamilton Tool Co.: Gear Hobber*, May 5 p 101

Hanchett Magna-Lock Corp.: Magnetic Chuck*, Jan 20 p 73

Hannifin Corp.: Compressed Air Conditioner*, Jan 20 p 74

Hanson-Van Winkle-Munning Co.: Burnishing Barrels, Feb 17 p 101 Non-Silicated Metal Cleaner*, May 5 p 105

Hard Rubber Co.: Vibration Dampener, May 5 p 104

d Chrome Plating Milling Machine Quills, by Warren Schmidt*, June 16 p 96

Hardinge Bros., Inc.: Second Operation Machine, May 12 p 101

Hardening: (See Heat Treating; Steel, Treatment; Nonferrous Metals, Treatment)

Hard Surfacing: (See Welding)

Hardy, Eugene J.:
Machine Tool Plant Low Productivity Seen*, Jan 13 p 102
St. Lawrence Seaway Project, Possible Congressional Approval*,
Feb 24 p 140

Harig Mfg. Corp.: Perforator Grinding Fixture*, Feb 3 p 128

Harley, F. H.: British Abolish Steel Industry Sub-sidy; Prices Up 9 pct. Apr 21 p

125 Bitish Steel Federation Anticipates Easing in Steel Supply, June 2 p 124

Harrisburg Steel Corp.: Lightweight Propane Cylinders, May 26 p 88

Harrison-Corry Co.: Oxygen Enriched Cupola Uses Oxygen En Blast, Jan 27 p 65

Harrison, E. N. and J. A. Wagner: Intermittent Oxygen Enrichment of the Cupola Blast*, May 12 p 96

Hartford Special Machinery Co.: Automatic Thread Roller*, June 2 p 84

Hartley, James C. and Edgar K. Mull Ultrasonic Testing of Tool Steels* May 19 p 80

Haskins, R. G., Co.: Grinding Attachment, Apr 7 p 107

Hasse, E. L.:
Radio Communication System Cuts
Materials Handling Costs 15
Pct*, May 26 p 82

Heating For Hardening and Forging With RF Equipment, by Thomas E. Lloyd*, Feb 17 p 87

Heat Treating
Aluminum Alloy 3S, Metallographic
Study*, May 26 p 74
Aluminum Casting Alloys*, (2
parts), Mar 3 p 88; Mar 10 p
110

Bearings, How Link-Belt Produces Ball and Roller*, (2 parts), June 23 p 74; June 30 p 58 Beryllium-Copper*, Feb 24 p 78 Chromizing at 1700° to 1850°F, Jan 27 p 65 Cold Forming Stainless Steels*, (2 parts), Mar 31 p 58; Apr 7 p 93 Dimensional Societies.

Dimensional Stabilization, June 2

p 76 Ductile Cast Iron—A New Engineering Material*, Feb 17 p 76 Heating For Hardening and Forging With RF Equipment*, Feb

17 p 87 Hot Milling High Strength Alloys*,

17 p 87
Hot Milling High Strength Alloys*,
Apr 28 p 67
Isolating Paste, Denfis Chemical
Laboratories, Inc., Jan 27 p 83
Isothermal Treating Of Large Steel
Castings*, June 30 p 42
Metallurgy*, Jan 6 p 216
Metallurgy and Heat Treatment of
Cutting Tools*, (Part II), Jan
13 p 61
Nitriding, Analysis*, (2 Parts),
Feb 10 p 68; Feb 17 p 93
Physical Properties of Reduced Iron
Powder Plus Graphite and Copper*, Mar 24 p 81
Quenching Media, Effect of Contamination*, May 5 p 88
Seamless Tubes for Sizing*, April
14 p 86
Steel Hardening Compound, Wilson
Carbon Co., Inc., Mar 31 p 85
Ultrasonic Testing of Tool Steels*,
May 19 p 80
(See also Furnaces, Heat Treating; Nonferrous Metals, Treatment; Steel, Treatment)
Heat Treatment of Aluminum Cast-

Heat Treatment of Aluminum Casting Alloys, by R. E. Spear and L. J. Ebert*, (2 Parts), Mar 3 p 88; Mar 10 p 110

Heliarc Welding Automobile Fenders by Herbert Chase*, Jan 13 p 51

Hesse, Paul R. and Bruce Schafer: Bronze Foundry Realizes Savings By Modernizing Melting Fur-naces*, Feb 3 p 122

Hevi Duty Electric Co.: Muffle Furnaces*, May 19 p 104

Hewitt Rubber Div.: Rotary Wire Brush, May 26 p 89

Heavy Duty Soldering Iron, Mar 10 p 123

High Speed Motion Pictures Aid in Analysis of Production Processes, by Richard O. Painter*, May 5

Hillman, Victor E.: Core Baking*, Feb 3 p 116

Hitt, William C.: Ultrasonic Testing of Aircraft Com-ponents*, June 23 p 66

Hobart Bros. Co.: Inert Gas Welder*, June 23 p 84 Tack Welding Electrode, June 9 p 73

Hobbing: (See Gears; Machining)

Holub Industries, Inc.: Live Centers*, May 26 p 87

Homestead Valve Mfg. Co.: Steam Cleaner*, May 26 p 87

Honan-Crane Corp.: Continuous Conveyer*, Jan 13 p 65 Oil Purifier*, Jan 27 p 82

Honing:
Extermal Hone, Motch & Merryweather Machinery Co.*, May 19 p 105
Vertical Honing Machine, Staple Engineering Co.*, Mar 3 p 112
(See also Machining)

Hot Milling High Strength Alloys, by A. O. Schmidt*, April 28 p 67

Hotpoint Electric Co.: Stamping Output Increased by Automatic Transfer Presses*, June 2 p 60

Houston Pipe & Steel Inc.: Welding 4 to 6 Pct Chrome Pipe*, Apr 7 p 102

W Ford Produces Parts From Metal Powders, by E. E. En-sign*, Mar 24 p 76

How Link-Belt Produces Ball and Roller Bearings, by D. I. Brown*, (2 Parts), June 23 p 74; June 30 p 58

How to Heat Treat Beryllium-Cop-per, by John T. Richards*, Feb 24 p 78

Howard, John J.: Approach to Taconite Utilization*. Apr 14 p 70

Howe, E. E.: Porcelain Enameling at Lustron*. Apr 14 p 72

Hruska, John H.: Significance of Speed in Automatic Welding*, Mar 10 p 98

Hungerford Corp.:
Deburring - Polishing Machine*, May 12 p 103

Hunter Spring Co.: Force Indicator*, Apr 14 p 91

Hydraulic Press Mfg. Co.: Sheet Metal Drawing Press*, Mar 17 p 99

Hydraulic Research & Mfg. Co.: Electronic Control Unit*, Mar 24

Hydraulic Standards Seen Benefiting Metalworking Industry, by R. R. Mitchell*, Apr 7 p 100

Hydropress, Inc.: Extrusion Press*, Apr 21 p 86

Hy-Pro Tool Co.: Plastics Tap, Feb 3 p 128

Hyster Co.: Clamshell Bucket for Lift Truck*, Mar 17 p 102 Revolving Apron Attachment, Apr 14 p 92

Ideal Industries, Inc.: Wire Stripper, Mar 10 p 122

Imports:
(See Exports and Imports)

Steel Production Drops, Mar 3 p

Induction Heating and Melting: Core Baking*, Feb 3 p 116 Hardening Mill Rolls, Jan 27 p 71 Induction Heater, Sherman Indus-trial Electronics Co.*, June 9 p

(See also Nonferrous Metals, Treatment; Steel, Treatment)

Induction Heating Corp.: Core Baking Tunnel*, Mar 24 p

Industrial Cold Co.: Low Temperature Cabinets*, Mar 3 p 111

Industrial Filter & Pump Mig. Co.: Heat Exchanger*, June 2 p 85

Industrial Supply Convention:
Stress Company Analysis, May 5
p. 140

Industry: idustry:
Adequate Profits For Highest
Standards Urged, Mar 17 p 156
Allegheny County Enact Law to
Control Smoke and Fly Ash,
May 26 p 117
Appliance Dealers See Profits, Jan
27 p 130
Appliance Makers Coordinate Effort to Stimulate Sales, June 16
p 137

p 137

p 137
Army Contracts Go to Small Business, Apr 7 p 177
Barter Plan Emphasizes Goods,
Not Dollars, June 9 p 106
Business Expansion Outlays Decrease This Year, Apr 14 p 146
Business O utlook Conference
Yields Diverse Opinions, Jan 27

94

p 94
Business Reacts Mildly to President's State of Union Message,
Jan 20 p 101
California Expansion of Electric
Power Producing Facilities Encouraging, June 16 p 116
California Second In Number of
Factories, June 2 p 100
Canadian International Fair Shows
Need for World Commerce, June
9 p 105
Cement Decision's Possible Disas-

Need for World Commerce, June 9 p 105
Cement Decision's Possible Disastrous Results. Feb 10 p 125
Cleveland Production Rate Declining, Apr 21 p 154
Coal Czar, Harry Moses Chosen, June 16 p 135
Coal Stocks Influence Bargaining Strategy*, June 23 p 121
Combating Industrial Air Pollution, Mar 10 p 108
Comics In Industry*, Apr 21 p 128
Corporations' Working Capital Increases, Jan 27 p 130
Current Business Off, Long Term Good, Apr 28 p 131
Delivered Price Bill Approval Expected, June 16 p 112
Delivery Improvement, Shorter Buying Policy, June 23 p 116
Detroit 1948 Figures Show Good Business Year, Mar 17 p 157
Diamond Imports Drop to 1939
Averages, Apr 7 p 172
Dollar Sales Volume, Little Decrease, May 5 p 114
Dravo Engineer Reports Waterways Potential, June 23 p 118
Dravo To Build River Barge Unloading Terminal, June 16 p 144
Electric Power Shortages Expected
Till Spring, Feb 17 p 153
Encroachment by Government,
Loss of Economic Strength, Apr 28 p 127
English Drop Forging Team To Study American Methods, June

Loss of Economic Strength, Apr 28 p 127 English Drop Forging Team To Study American Methods, June 23 p 126 Europe Reflects American Econo-mies Changes, Apr 14 p 122 Freight Absorption, Court's De-cision Expected, Apr 7 p 18 Freight Absorption, Federal Court Ruling Hamstrings, Mar 31 p 123

123
GE Cites Factors Preventing Sharp Drop, June 16 p 138
German Plant Dismantling Agreement Altered, Apr 21 p 121
Germans Use Scrap Pipe*, Mar 24

p 131 Guaranty Trust Co. Sees Bleaker Fiscal Outlook, Jan 6 p 362 Heavy Water Usage Causing Con-cern, Apr 14 p 100 High Employment In 1949, Jan 20

p 109
Household Appliance Field Pre-pares to Meet Increased Con-sumer Sales Resistance, May 5 p 135
Idleness Trend Due to Work Stoppages (Table), Feb 10 p 140 Industrial Activity Down, May 26

p 102 Industrial Expansion Credits Ex-tended, Apr 14 p 150 Industrial Reserve Plants, 236 Listed, Apr 7 p 139

Industrial Supply Convention Stresses Company Analysis, May p 140

n Age Staff Changes", June 30 Kaiser Freight Allowances (Table).

Apr 28 p 108 Labor*, Jan 6 p 184 Labor Bill Predicts Fair Business,

Labor', Jan 6 p 184
Labor Bill Predicts Fair Business,
Mar 3 p 168
Lake Eric and Ohio River Terminal
Belt Conveyer's, Feb 10 p 126
Legal Pricing Practices, Feb 10 p
130

130
os Angeles Foundries Affected by
Oil Tool Slump, June 23 p 98
os Angeles Industry Looks For
Rise in Spring, Feb 3 p 140
ow Retooling Costs Sought by
Tool and Die Firms, Feb 24 p
139

139 139 Lyon Metal Trading Program Helped Obtain Steel During Al-location Period, June 23 p 123 Machine Tool Inquiries Greatest Volume Since War, June 30 p

Machine Tool Loses Skilled Workers; Low Order Volume Hinders Training Programs*, Feb 17 p

139
Malleable Founders Stress Market
Need, June 23 p 120
Materials Handling Exposition*,
Jan 13 p 102-D
Metal Future Bright In Los Angeles, Feb 24 p 116
Michiwan Bank Deposits Reach
All-Time High, June 2 p 144
Michigan Cooperative Loans Approved, June 23 p 122
Midwestern Business Shrinks, Feb
3 p 167

Midwestern Business Shrinks, Feb 3 p 167
Mobile's Growth*, Feb 10 p 120
NAM Officials, Feb 3 p 190
NAM Officials, Feb 3 p 190
New England Business Levels Off.
Feb 10 p 123
New England Business Spotty, Jan 27 p 134
New England Business Spotty, Jan 26 p 136
New England Businessmen Express Confidence in Own Future, June 16 p 136
New England Employment, Backlogs, New Orders Declining, May 5 p 133
New England Steel Plant Hopes, Jan 27 p 109
Northwest Slow, Feb 3 p 172
Norway Strives for Self Sufficiency; Studies Our Equipment and Practices, May 12 p 143
Plant Smoke and Waste Control Creating Cost Problem, June 30 p 101
Plating Waste Disposal*, June 16

Plating Waste Disposal*, June 16

Pollution Clean-Up Funds To Be Tax Free, Feb 10 p 96 Power Plant Operates at 1050°F*, June 30 p 64 Prestole Corp. Burned Out; Com-munity Helps, Apr 14 p 161 Prices and Production*, Jan 6 p 282

ricing Controversy Spotlighted by Normal Market Trend, Feb 24

p 135
Profit Sharing Views Presented,
June 23 p 90
Profits in Scrap*, Mar 17 p 86
Radioisotopes, Bibliography of Industrial Uses, June 9 p 60
Research*, Jan 6 p 241
St. Lawrence Seaway Estimated
Toll Revenues (Table), Feb 24
p 140
St. Lawrence Seaway Project Por

p 140
St. Lawrence Scaway Project, Possible Congressional Approval*, Feb 24 p 140
Sales Service Essential to Industry Health, Feb 24 p 76
Screw Manufacturers Judgment Entered, Apr 7 p 180
Sharon Steel Corp. Industrial Peace Cited, May 19 p 145
Small Concerns Adopt Aggressive Programs, June 2 p 100
Smog Ceases to be Industrial Joke, Apr 14 p 104

Smog Ceases to be Industrial Joke, Apr 14 p 104
Smoke Output Reduction Process, June 9 p 86
Southeastern Rise Called Signifi-cant*, Mar 3 p 152
Stream Contamination Reduced, Jan 6 p 368
Taxes Threaten Growth, Jan 27 p

76
Texas Tonnage Oxygen Plant
Wins Spurs*, June 9 p 107 Plant Tool and Diemakers' Eatnings Reported, Mar 24 p 136 Training Tool and Diemaker Ap-prentices at Talon*, Feb 24 p 7.2 Two-Thirds Nation's Industrial Output in Ten States, May 19

p 140
U. S. Shipbuilding Approaches Crisis*, Feb 10 p 117
Video and Public Relations*, Jan 27 p 121
Warehousing Facilities S h o w n .
June 2 p 144
Western Metal Congress Visitors Interested in Sunnly, Demand.

western Metal Congress Visitors Interested in Supply, Demand, Technical Problems, Apr 21 p 100 Work Stoppages (Table), Feb 10 p 140

Ingersoll-Rand Co.: Impact Wrench, Apr 21 p 89

Inspection: (See Testing and Inspection)

Institute of Scrap Iron & Steel: Convention Discusses, Prices and Quality*, Jan 27 p 114

Instrument & Chemical Corp.: Packaged Laboratories*, May 26 p 87

Instruments, Laboratory:
Aircraft Components,
Testing*, June 23 p 66
Colorimetric Methods of Guide*, Apr 28 p 88
Magnetic Strain Gage,
house Electric Corp.* Feb 24 p

Metal Analyzer, J. W. Dice & Co.*, Jan 20 p 73
Micro-Hardness Tester, Erb & Gray* Feb 24 p 102
Practical Applications of Stress Analysis at 1-H*, Mar 17 p 76
Ultrasonic Testing of Tool Steels*, May 19 p 80
Vibration and Noise Detector, Aircraft Electronics Associates, Inc. Mar 17 p 102

Instruments, Process Control:
Coating Thickness Gage, Branson
Instruments, Inc.*, Apr 14 p 90
Combustion Tubes, Harry W. Dietert Co., Jan 20 p 74
Continuous Limit Gage, Pratt &
Whitney Div.*, June 16 p 102
Edge Control, Reliance Electric &
Engineering Co., Apr 14 p 90
Electronic Surface Comparator,
Merz Engineering Co.*, Apr 21
p 87

Merz Engineering Co.*, Apr 21
p 87
Electronic Tinplate Counter, Potter Instrument Co.*, June 9 p 71
Flow Guide, Fischer & Porter Co.*,
May 5 p 103
Gaging 125 Valve Tappets Per
Minute*, May 26 p 66
Light Signal Device, Pratt &
Whitney Div.*, Apr 7 p 107
Magnetic Counter, Veeder-Root
Inc., June 23 p 87
Oldsmobile Uses Modern Gaging
Techniques In Producing New
Engine*, Feb 10 p 78
Openhearth Optical Pyrometer.
Pyrometer Instrument Co., Apr
21 p 85
Process Control Indicator, Wheelco Instrument Co., May 26 p 89
Process Control Indicator, Wheel-

co Instrument Co., May 26 p 89 Strain Gages Measure Roll Force, Torque and Strip Tension, Feb 24 p 71

10 rque and Strip Tension, Feb. 24 p. 71
Tachometer, Metron Instrument Co., June 16 p. 104
Temperature Transmitter, Taylor Instrument Co.**. May 26 p. 86
Thermal Switch, Manuing, Maxwell & Moore, Inc., Apr. 14 p. 96
Thermocouple Indicator, Claud S. Gordon Co., May 12 p. 105
Thickness Gage, General Electric Co.**. Apr. 21 p. 87
Tungsten-Molybdenum Thermocouples**. Mar 31 p. 65
(See also Process Control)

Instrument, Shop:
Aircraft Components, Ultrasonic Testing*, June 23 p 66
Bearings, How Link-Belt Produces
Ball and Roller*, (2 Parts), June
23 p 74: June 30 p 58
Brinell Hardness Reader, Harry
W. Dietert Co., Feb 24 p 103
Carbide Thread Ring Gages, Pratt
& Whitney Div.*, Feb 10 p 86

GM and Chrysler Produce Rough ness Gage Blocks for Machine Surface, Mar 17 p 106 Hydraulic Crane Scales, A. H.

Surface, Mar 17 p 106
Hydraulic Crane Scales, A B
Emery Co.*, June 16 p 103
Immersion Thermometer, Electry
Paint & Varnish Remover Co.
May 19 p 107
Improved Microdapter, Rimat M
chine Tool Co.*, Mar 31 p 83
Insulated Gage Blocks, Webbe
Gage Co., May 19 p 104
Micrometer Adjusting Nut, Garing Tool Co.*, June 30 p 66
Piston Gage, Pratt & Whitne
Div.*, Apr 21 p 87
Piston Cage, Pratt & Whitne
Div.*, Feb 24 p 101
Portable Hardness Tester, Ame,
Precision Machine Works*, Fel10 p 86

mesto

elliff.

elrus (

igs, F

Aute 17 ining

in

Cas

No No Plat

D Kalish Mo

Bre

Kelite

Mil

Kenn I Co

Kent

Mi

Portable Hardness Tester, Ame, Precision Machine Works*, Fel. 10 p. 86
Precision Level, South Bend Lathworks, May 26 p. 87
Reversible Plug Gages, Pratt & Whitney Div.*, Mar 17 p. 101
Reversible Plug Gages, Taft-Peiro Mfg. Co., Mar 24 p. 95
Rotary Magnetic Tool, Multimish Mfg. Co.*, May 26 p. 88
Test Blocks, Clark Instrument Inc., May 5 p. 102
Torque Analyzer, Richmont, Inc.*, May 5 p. 102
Universal Screw Stage, Jones & Lamson Machine Co.*, Fel. 17 p. 99
(See also Testing and Inspection)

Intermittent Oxygen Eurichment of the Cupola Blast by E. N. Harr son and J. A. Wagner*, May 1 p. 96

International Business Machine

Corp.:

Broaching Typewriter Parts*, May 5 p 97

Rack Slotting in a Rise and Fall Miller*, May 5 p 85

Typewriter Parts Fixtured for In duction Brazing*, Apr 28 p 85

International Harvester Co.:
Credit Firm Set Up, Mar 17 p 130
Dimensional Stabilization, Heat
Treating, June 2 p 76
Heating For Hardening and Forging With RF Equipment*, Feb. 17 p 87

17 p 87 New Foundry, Feb 10 p 142 Practical Applications of S Analysis*, Mar 17 p 76

Interstate Commerce Commission:
Freight Rise Authorized, Jan 6
292
Steel Shipping Dangerous Pratices To Be Eliminated, June 9
p 100

Iron Age: Staff Changes*, June 30 p 97

Iron Ore: (See Ore, Ferrous)

Iron Ore, by W. A. Llo₂ to, Jan p 229

Oxygen Enrichment in the I Shaft Furnace, June 23 p 70

Iron, Metallurgy:
Ductile Gray Iron Development
Reports, Mar 24 p 124
Nodular Graphite Irons, Apr 28 odular Iron, Notes on History May 19 p 100 82 Nodular Iron,

Iron, Production:
Eastern Pig Iron Producers Piling
More Than Shipping, June 2;
122
Iron Ore*, Jan 6 p 229
Sponge Iron, Commercial Production*, June 2 p 67

Iron, Treatment: Magnesium Treatment for Nodula Graphite Cast Iron*, Feb 24 Malleable Iron, Machining*, Jun 2 p 73

Isothermal Heat Treatment Of Larg Steel Castings, by Don Rosen blatt*, June 30 p 42

Modern Plant, Competitive Prices, Swelemakers Aim, Apr 14 p 130

& S Tool Co.: Jaw Clamps, Mar 24 p 93

Rough to time

A. R. Sleetricer Co.

at Ma p 83 Vebber

Gair-

66 hitne

hitne

Ame.

Lath

att å 101 Peirce

ifinis

men

Inc.*

els 1

ction

nt e Harri

chine

Ma

Fall

p S

p 130 Hear

Forg

Stre

11:

Practice 3

an

Lon

111411

tor

ilin

elu

Jun

AF I

akobsen Tool Co.: Surface Grinder*, Apr 7 p 105

mison Steel Corp.: Ejector Pins, Jan 20 p 72

mestown Metal Corp.: Enameling Auto Window Moldings By Electrostatic Spray*, Feb 10

Serap Potential Estimate, Apr 14 p 132 Scrap Potential Probed, Jan 27 p

elliff, C. O., Mfg. Corp.: Resistance Wire, June 30 p 69

elrus Co., Inc.: Portable Electric Furnace*, Mar 17 p 100

essop Steel Co.: Competitive Market, Apr 28 p 133

gs, Fixtures:
Drilling Jug, Welded Constructions, May 19 p 94
Typewriter Parts Fixtured for Induction Brazings, Apr 28 p 87

hns-Hartford Tool Co.: Form Tools*, Mar 31 p 84

hnson Automatic Machine Co.: Automatic Screw Machine', Feb

ining: (See Fasteners; Brazing; Rivet-ing; Soldering; Welding)

nes & Lamson Machine Co.: Universal Screw Stage*, Feb 17 p 99

mes & Laughlin Steel Corp.: Driving and Controlling a Mode Strip Pickling Line*, Jan 13

Electriweld Tubing, May 26 p 86 Slab Heating Furnaces Built Quickly, May 12 p 134 Turbo-Hearth, The*, Apr 21 p 63

Cast Ferrous Materials for Sub-zero Service*, June 9 p 46

Risst Furnace Operates on Curtailed Bases, May 12 p 118
No Plans To Acquire More Plants,
Mar 10 p 168
Plating Waste Disposal*, June 16
p 79

Kalish, Herbert S.: Mounting Metallographic Specimens at Room Temperature, Mar 10 p 109

Sase Machine Co.: Broach Adapters*, June 23 p 85 Pencil-Size Broach, May 12 p 102

Kelite Products, Inc.: Swivel Ball Joint Couplings*, Apr 28 p 94

Kennametal Inc.: Milling Cutter Blades, June 30 p 67 Offset Tools, June 30 p 67

Kennard, Theodore G., John F.
Drake and W. A. Saylor:
Control of Cupola Stack Emissions*, Apr 7 p 88

Kent Cliff Laboratories: Micro Hardness Tester*, Mar 24 p 92

ent-Owens Machine Co.: Milling Machine*, Feb 17 p 100 Special Milling Machine*, June 30

Keo Cutter: Drill Set*, May 5 p 104

Key Co.: Flexible Gate Material, Apr 7 p 109

Keystone Steel & Wire Co.: Modernizes Rod Mill*, Mar 3 p. 109

Kiddie, Walter & Co., Inc.: Smoke Detector*, Apr 21 p 88

Knopp, W. V., G. J. Comstock, C. L. Clark and John D Shaw: Powder Metallurgy*, Mar 24 p 72

Kopecki, E. S.: Fused Ore for the Openhearth', Apr 7 p 82 Metallurgy*, Jan 6 p 216

Koppers Co.: Introduces Piston Ring for Cars, Mar 17 p 140

Korfund Co.: Hammer Vibration Isolation, Apr Hammer 28 p 95

Kroger, George: Wheeled Fixture Speeds Truck Cab Assembly*, Jan 20 p 58

Kux Machine Co.: Vertical Discasting Machine', Mar 31 p 82

Kwik-Mix Co.: Improved Powered Wheelbarrow', Mar 3 p 114

1

Labor, by W. V. Packard*, Jan 6

Labor, Wages:
Allis-Chalmers Reaches Agreement, May 26 p 128
Analysis in the Steel Industry*, Ian 27 p 60
Automotive Industry Unrest, Apr 28 p 100
Average Earnings at Peak, Feb 17 p 133
Cleveland Employment Continues Flown, May 19 p 163
Cleveland's Unemployed Increases Another 2000, May 26 p 126
Employment Cuthacks Temporary, Ian 13 p 97
Ford Strike Costs \$20 Million in Wages: Over 37,000 Vehicles, May 19 p 110
Ford To Get Union Demands, Feb 17 p 106

17 p 106 Fringe Benefits Add 15 Pet to Wave Bill, May 26 p 152 High Employment In 1949, Jan 20

p 109 Inland Steel Steelworkers Begin

Mand Steel Steelworkers Begin Bargaining, June 30 p. 97 muary Steel Payroll Tops, Mar 17 p. 126 asiser-Frazer Doubles Weekly Benefits to Workers, Feb. 17 p.

Kennecott Strike Ends, Feb 24 p 154 Labor⁸, Jan 6 p 184 Layoffs in December, Feb 24 p

Layoffs in December, Feb 24 p
132
Machine Tool I n d u s t r y Loses
Skilled Workers: Low Order
Volume Hinders Training Programs*, Feb 17 p 139
Machine Tool Plants Low Productivity Seen*, Jan 13 p 102
Machine Tool Plants, Trends in
Factory Man-Hours (Table),
Jan 13 p 102
March Work Stoppages Increase,
May 25 p 154
Massachusetts Employment Drops,
Apr 7 p 148
Michigan Employment Off, May
19 p 164
New England Employment Trend
Down, May 19 p 165
New Slant on Relations, Mar 31 p
122
Payrolls Off in January, Mar 17 p

Payrolls Off in January, Mar 17 p

Peusion Plan Adopted By Alan Wood Steel Co., Jan 6 p 307 Social Security Fight, Philip Mur-ray Ready, Mar 17 p 129

Steel Industry Has 4000 Separate Jobs, June 16 p 140
Steel Unions Seek New Rates on Federal Jobs, Mar 3 p 148
Steelworkers Request Minimum Wage Increase, Feb 3 p 169
Strikes Back To Normal In 1948, Feb 10 p 140
Strikes' Downward Trend Continues, May 5 p 177
10 Pct Wage Demand By Nonferrous Metals Workers, Mar 24 p 140

10 Pet Wage Demand By Nonferrous Metals Workers, Mar 24
p 140
Training Tool and Diemaker Apprentices at Talon*, Feb 24 p 72
UAW-C10 and Auto Management
Prepars for Negotiations, Apr 7
p 112
UE-C10 Requests GM to Set Base
for Contract, May 26 p 119
Unemployment C1 a i m s Show
Downward Trend, Mar 31 p 118
Unemployment Pay Rises, Feb 10
p 100
Union Leaders Hurl Spcedup
Union Leaders Hurl Spcedup
Union Shop Clause In UMW Bargaining Outlawed, June 16 p 114
U. S. and Canadian Plants Tied
Together, Feb 17 p 108
U. S. Steel and USWA Tangle
Over Pensions In Pittsburgh,
June 23 p 128
USWA Gains In Members and
Money, Jan 13 p 97
USWA Seeks Increase, Pensions,
Security, May 12 p 135
Unrest in Auto Industry During
1949, Feb 17 p 106
Weekly Pay Down, Apr 28 p 120
Weirton Assures Retirement Program, Jan 20 p 108
Lacquer:

Lacquer: (See Cleaning and Finishing)

Lake City Malleable Co.: Mobile Unit Develops New Business, May 26 p 127

Landis Machine Co.: Die Head*, May 5 p 103

Lansing, J. H., L. R. Spann, Milton Tilley and W. M. Albrecht: Machining Malleable Iron*, June 2 p 73

Lathes: Automatic Chuckers Feature High Production and Efficiency*, Apr

21 p 78 utomatic Chucking Machine, Warner & Swasey Co*, June 2 p 83

p 83 Automatic Lathe, Morey Machin-ery Co.*, Mar 3 p 111 Ball Bearing Live Center, South Bend Lathe Works, Feb 24 p 105

Center Drive Lathe, Seneca Falls Machine Co., Mar 31 p 81 Combination Lathe, R. K. Le Blond Machine Tool Co.*, Mar 31 p 81 Drilling Square Holes*, Mar 17 p

Hydraulic Automatic Lathe, Gisholt Machine Co.*, May 19 p

Machining Axles at Ford*, Apr 28 Malleable Iron, Machining*, June 2

p 73 Multiple Turning Lathe, Seneca Falls Machine Co.*, June 9 p 69 Precision Lathes, Clausing Mfg.

Precision Lathes, Clausing Mfg. Co.", Feb 24 p 101

Precision Turret Lathe, South Bend Lathe Works", June 16 p

Bend Lathe Works*, June 16 p 101 Roll Turning Lathe, Monarch Ma-chine Tool Co.*, June 2 p 83 Swing Lathes, South Bend Lathe Works, Feb 10 p 84 Tool Room Lathe, Springfield Ma-chine Tool Co.*, June 23 p 83 Tracer Control Simplifies Roll Turning*, June 2 p 123 Tracer-Controlled Lathe, Lodge & Shipley Co.*, Feb 3 p 126 (See also Machining)

Laundry Machinery Redesigned for Welded Construction by Frank A. Gerlach*, May 5 p 92

Lawrence, Joseph Stagg: A Compliment, June 23 p 57 A Solution, Feb 10 p 57 Another Deal, May 26 p 59

Case History, Mar 10 p 95 Compromising with Defense, Jan Compromising with Defense, Jan 20 p 45
Euthanasia, June 30 p 39
Fair Play, Jan 13 p 39
Full Employment, May 12 p 75
Honest Dollar, Feb 3 p 99
I Would, June 2 p 57
International Bureaueracy, Mar 17
p 73
Inviting Unemployment, June 9 p

44
Nationalization, Jan 27 p 53
Notice to Aggressors, Mar 31 p 55
Our Cake, Apr 21 p 59
Papa Knows Better, Apr 7 p 79
Poverty for All, Jan 6 p 157
Production For Use, Feb 17 p 73
Reliable Service, Mar 3 p 85
Security, Mar 24 p 65
Self-Adjustment, the Test, Apr 14
p 63

p 63
Socialist Sappers, May 5 p 75
Socialist Sappers, May 5 p 75
Sterling Devaluation, Apr 28 p 63
The Real Danger, June 16 p 75
Two Faces, May 19 p 77
Wanted—An Opposition, Feb 24
p 62

Lead:
Price Fall to Affect 1949 Development*, Apr 14 p 125
(See also Nonferrous Metals)

Lead Industries Assn.; 21st Annual Meeting*, Apr 14 p 125

LeBlond, R. K., Machine Tool Co.: Combination Lathe*, Mar 31 p 81 Hydraulic Tracer*, Mar 17 p 99

Leckie-Ewing, P.: Metallurgy and Heat Treatment of Cutting Tools*, (Part II), Jan 13 p 61

Leece-Neville Co.: Air Cranking Motor, May 5 p 105

Leeds Electric & Mfg. Co.: Powered Flat Conveyer*, June 23 p 86

Lehigh Valley Throwing Mills: Welding Increases Bobbin Capa-city*, Apr 28 p 71

LeMaire Tool & Mfg. Co.: Boring-Facing Machine*, Apr 28 Tapping Machine*, Mar 17 p 99

Leonard Precision Products Co.: Tube Flaring Machine*, June 16 p 102

Leslie Co.: Air-Water Operating, May 12 p 105

Lewis, C. J.: Dry Lime Treatment of Waste Pickle Liquor*, Jan 20 p 48

Lewis-Shepard Products, Inc.: Fork Extensions, Jan 13 p 69 Portable Lift Truck*, Jan 13 p 68

Liberia Mining Co., Ltd.: Bank Credt Received to Assist Development Work, May 12 p 135 Republic Steel Buys Into, Mar 17 p 141

Lift Trucks, Inc.: Lift Truck, Feb 3 p 129

Lighting, Industrial: (See Plant Equipment)

Lima-Hamilton Corp.: Seroll Shear*, May 26 p 85

Lincoln Electric Co.: Hard Surfacing Powder, Jan 27 Small Arc Welder", June 30 p 66

Lindberg Engineering Co.: Automatic Ladling*, June 30 p 66 Blowers*, Mar 17 p 102

Linde Air Products Co.: Spot Welding Torch*, Feb 24 p Spot 1

Link-Belt Co.:

Ball and Roller Bearings Produced*, (2 Parts), June 23 p 74;

June 30 p 58

Lintern Corp.: Crane Conditioner, June 30 p 68

Lippert, T. W.: Evolution of the Reversing Hot Strip Mill*, May 19 p 86

Littell, F. J., Machine Co.: Coil Weight Calculator, Mar 31 p Straightening Machine*, Jan 27 p

Little, Arthur D., Inc.: Radioisotopes, Bibliography of In-dustrial Uses, June 9 p 60

Livingstone Engineering Co.: Steam-Jet Cleaner*, May 5 p 104

Lloyd, Thomas E.:
Adjustable Fixture Increases Utility of Special Purpose Machine Jan 20 p 61
Heating For Hardening and Forging With RF Equipment, Feb

p 87 Machining Axles at Ford*, Apr 28

p 72 Machining Workpiece Handling*, Jan 6 p 207 Milling Sicraft Wing Skins*, May 5 p 78

Lloyd, W. A.: Alloy Steel Business Down 25 Pct from Fourth Quarter 1948, Apr

28 p 129 etter Inventories Seen But Drooping Sales Volume, Apr 14 p 127

Drooping Sales Volume, Apr 14 p 127
Boom Merged Into Competitive Market for Fastener Makers, May 19 p 135
Forging Industry Feels Less Demand from Cost Conscious Buyers, May 12 p 133
Iron Ore*, Jan 6 p 229
Iron Ore, High Peacetime Movement in 1949*, Mar 31 p 121
Machine Tool In du stry Loses Skilled Workers; Low Order Volume Hinders Training Programs*, Feb 17 p 139
Pig Iron Producers Face Decline in Demand, Prices*, Apr 21 p

119

119
Reject Sheets Hit By Consumer Selectivity and Inventory Reduction, June 9 p 101
Republic Steel Buys Into Liberia Mining Co., Mar 17 p 141
Seamless Tube Mill Planned, Jan 27 p 127

Seamless Tube Mill Flanney, Jan 27 p 123 60-80 Million Tons Ingots An-nually Called Sound Peacetime Operating Rate, May 26 p 126 Stamping Industry Facing Severe Testing Period, May 5 p 145 Wire Industry Faced by Inventory Liquidation and Price Testing, June 16 p 141

Lodge & Shipley Co.: Tracer-Controlled Lathe*, Feb 3 p 126

Logan Engineering Co.: Shaper*, June 30 p 65

Logansport Machine Co.: Air Control Valve*, June 2 p 86

Lone Star Steel Co.: Asks RPC Loan, Jan 27 p 120 Expansion Hot Subject in Texas, May 5 p 136

Lovejoy Tool Co.: Carbide-Tipped End Mills, Mar 3 p 113

Lowebco, Inc.: Metal Coating, June 2 p 87

Lubricants:
ASTE Studies Basic Metal Proc-essing Techniques*, Mar 31 p 74 Bed Way Lubricant, Beacon Lab-oratories, Texas Co., Feb 10 p

87
Cold Forming Stainless Steels*, (2
Parts), Mar 31 p 58; Apr 7 p 93
Grease Lubricator, J. N. Fauver
Co.*, June 2 p 85
Lubricant, Sun Oil Co., Mar 10

p 123 Metal Cutting Fluids*, Feb 10 p

Metalworking Lubricant, Lubricants, Inc., Feb 17 p 102

Surface Protection for Drawing Aluminum*, Mar 10 p 106 (See also Coolants, Oil)

Lubricants, Inc.: Metalworking Lubricant, Feb 17 p 102

Lucas Machine Div.:

Boring, Drilling and Milling Ma-chine*, May 12 p 101

Lukens Steel Co.: Mill Electrified, Apr 21 p 124

Lustron Corp.:
Porcelain Enameling*, Apr 14 p

Lynn Products Co.: Wire Terminal Kit, June 16 p 104

Lyon Metal, Inc.: Trading Program Helped Obtain Steel During Allocation Period, June 23 p 123

Lyon-Raymond Corp.:
Die Handling Truck*, Jan 13 p 68;
Apr 14 p 92
Die Transfer Table, Feb 3 p 129
Die Truck*, May 12 p 104
Lightweight Pallet Truck*, June 9 p 72 Reel Carrier* Tote Pan I

eel Carrier*, Apr 14 p 92 ote Pan Lift Truck*, Mar 3 p

M

McNeil Machine & Engineering Co.: Cleveland Crane Stock Acquired, leveland Crane Jan 20 p 123

Machine Tool Accessories: Adjustable Blade Chaser, National Acme Co.*, Jan 20 p 73 Adjustable Fixture Increases Utility of Special Purpose Machine*.

ity of Special Purpose Machine, Jan 20 p 61 Adjustable Tapping Head, Erring-ton Mechanical Laboratory, Inc.*, Apr 28 p 94 Air-Gage Tracer for Lathes, Mon-arch Machine Tool Co.*, Jan 27

P 79
Aligning Shank Die Head, Geometric Tool Co.*, Mar 3 p 113
Automatic Hopper Feed, Feedall Machine & Engineering Co.*, Mar 31 p 83
Automatic Recessing Tool, Scully-Jones & Co.*, Apr 21 p 87
Box Tool, Multi-Micro Cut Tool Co.*, May 12 p 102
Broach Designed for Two Pieces, Apr 7 p 87
Cam Milling Fixture*, Jan 27 p 66
Carbide Insert Cutting Tools*, May 12 p 84

Apr 7 p 87

Cam Milling Fixture*. Jan 27 p 66

Carbide Insert Cutting Tools*, May

12 p 84

Carbide-Tipped End Mills, Lovejoy Tool Co., Mar 3 p 113

Chaser-Clip, Geometric Tool Co.*,

Mar 24 p 94

Chuck Jaw Adjustment, Whiton

Machine Co., Apr 21 p 89

Collet Chucks, Erickson Tools

Div.*, June 9 p 71

Counterbore, Aircraft Tools, Inc.*,

May 12 p 102

Drilling Square Holes on Lathe*,

Mar 17 p 98

Forged Bits and Boring Bars, Maxwell Co.*, Mar 24 p 94

Heavy Duty Power Chuck, Whiton

Machine Co.*, Mar 10 p 123

Hydraulic Tracer, R. K. LeBlond

Machine Tool Co.*, Mar 17 p 99

Keyway Broaches and Bushings,

Du Mont Corp., Mar 10 p 122

Lightweight Chuck, Whiton Machine Co., May 5 p 102

Live Centers, Holub Industries,

Inc.*, May 26 p 87

Masmetic Chuck, Hanchett Magna
Lock Corp.*, June 9 p 71

Midget Clamps, Nobel & Stanton,

Inc., Apr 21 p 89

Milling Cutter Blades, Kennametal

Inc., June 30 p 67

Milling Cutter Blades, Kennametal

Inc., June 30 p 67

Milling Cutter, Diamond-Detroit

Inc.*, June 9 p 71

Precision Indexer, Webber Gage

Co., Mar 10 p 122

Punch Press Index Feed, De Castro & Associates*, Feb 3 p 127

Small Recessing Tools, Maxwell

Co.*, Jan 20 p 72

Swivel Table Adjuster, Brown & Sharpe Mfg. Co.*, Jan 27 p 81 Tap Chuck, Dahlstrom Mfg. Co.*,

Swivel Table Adjuster, Brown & Sharpe Mig. Co.*, Jan 27 p 81
Tap Chuck, Dahlstrom Mig. Co.*, May 26 p 86
Tap Holder, Burg Tool Mig. Co., Apr 28 p 94
Tool Holder, Universal Engineering Co.*, May 12 p 102
Tool Post Bolts. Boyar-Schultz Corp., May 19 p 104
Tube Fitting, Parker Appliance Co., Jan 27 p 81
Turret Lathe Attachment, Williams & Hussey Machine Co.*, June 30 p 67
Universal Chucks, Westcott Chuck Co., Apr 28 p 94
Work Positioner, Ransome Machinery Co., Jan 27 p 81

Machine Tool Industry:
April Orders Drop to 6-Month
Low, May 26 p 156
ASTE Studies Basic Metal Processing Techniques*, Mar 31 p
74

cessing Techniques*, Mar 31 p
74
Auctions of War Surplus Increase,
Feb 10 p 146
Benefits Slightly by Marshall Plan,
Mar 3 p 144
Business Spotty: Exports Higher,
Mar 17 p 170
Buying Spotty: Inquiries Good:
Outlook Uncertain, Apr 7 p 184
Current Orders Spotty: Few Firms
Equal December Volume, Feb 24
p 164
Defense Program Aid to Toolmakers, Jan 13 p 112
Dwindling Orders Hit Builders,
June 9 p 126
ECA Orders Increase, Mar 10 p 181
Emergency Output Rate Would
Take Year To Reach, May 19 p
147
Engieeers Cover Development De-

Engineers Cover Development De-tails, Mar 17 p 131 Equipment Exhibited, June 30 p 104

104
Export Business Gap Laid to Dollar Shortages, Mar 24 p 138
Fight for Orders, New Business
Drops, June 2 p 156
Government Policy Hampers, May

Government Policy Hampers, May 19 p 166
Hit by War Dept. Renegotiation Rules, Apr 14 p 166
Inquiries Greatest Since War, June 30 p 103
Inquiries Up; General Trend Down, June 16 p 164
JANMAT Ordered to Wind Up Affairs. Apr 28 p 154
Loses Skilled Workers; Low Order Volume Hinders Training Programs*. Feb 17 p 139
Lower Productivity Seen in Plants*, Jan 13 p 102
Machineability Symposium at Purdue, Apr 14 p 153
Manufacturers Cut Unnecessary Expenses, June 30 p 111
Marshall Plan Aid Lags, Mar 3 p 190

Marshall Plan Aid Lags, Mar 3 p 190
Midwest Sales Up; Deliveries in 30 Days, May 12 p 172
New Corporation To Facilitate Selling Formed, June 16 p 142A
New England Tool Builders Hopeful, Jan 20 p 106
New Equipment Center of Attention, June 30 p 114
New Orders Hard To Get, Jan 27 p 138
Order Volume Static; Change May Come, Jan 6 p 310
Pickup Prospects Dim Before Fall, June 23 p 154
Plan to Ship Surplus Tools to Western Europe, Mar 31 p 146
Production Decline Showed, May 5 p 182
Sales Pattern Unchanged in Major Sectors, Feb 17 p 164
Sales Volume Drops, Feb 3 p 204
Second Quarter Saless Volume Down; New Orders Lune High Lan 20 p 124

Shipments Expected To High 1948 High, Jan 20 p 124

Machinery: Britain Displays Road Making*, Jan 27 p 125

Machine Tools: Adjustable Fixture Increases Utility of Special Purpose Ma-chine*, Jan 20 p 61

Modified 28 p Treatme Cast (See als

cold Pa

Forging a Tit

Annual

Improv 102

Leak-P

nagen AC V Pow Analys in ti p 60

Armed

dent Jan

Carnes

Contro

Detroi

31 F.O. B

Fringe Bill GM 7

177 High p 1 Idlene

Sto 140

gra Mach Mach Fac Jan

Plant Cre p l Platin

152 Profi

Ap

Pe

ray Spra

Wor

langa

Curi

Pep Fore Rus

anit

Rad

nni

Con

Boring, Drilling and Milling Machine, Lucas Machine Div. May 12 p 101
Double Loading Machine, Cross Co.*, Feb 10 p 85
Flash Trimming Machines, Machine Machining Workpiece Handling Jan 6 p 207
Milling Machine Quills, Handling Machine Quills, Chrome Plating*, June 16 p 9
Oil Pump Finishing, Cross Co. Jan 20 p 71
Precision Bench Shaper, South Bend Lathe Works*, Apr 7; 105

105 Second Operation Machine, Hardinge Bros., Inc., May 12 p 10
Special Purpose Machine, Snyde
Tool & Engineering Co.*, Ma

31 p 81 Spline Burring Machine, Sheffield Corp.*, Feb 10 p 83 (See also Specific Types)

Machining Axles at Ford, by T. E. Lloyd*, Apr 28 p 72

Machining Malleable Iron, by Milter Tilley, W. M. Albrecht, L. R Spann and J. H. Lansing, June 2 p 73

Machining Scale Knife Edges an Bearings, by O. S. Carliss' June 9 p 50

Machining Workpiece Handling, 1 T. E. Lloyd*, Jan 6 p 207

T. E. Lloyd*, Jan 6 p 207

Machining:

ASTE Studies Basic Metal Processing Techniques*, Mar 31 p 74
Automatic Chuckers Feature High
Production and Efficiency*, Apr
21 p 78
Automotive Door Hinges, Broaching*, June 23 p 81
Axles at Ford*, Apr 28 p 72
Bearings, How Link-Belt Produces
Ball and Roller*, (2 Parts), June 23 p 74 and June 30 p 58
Boring Tractor Housings*, May
26 p 70
Broaching Typewriter Parts*, May
5 p 97
Cam Milling Fixture*, Jan 27 p 66

5 p 97 Cam Milling Fixture*, Jan 27 p 60 Carbide Insert Cutting Tools*, May

12 n 84 Continuous Milling Fixture*, June

Continuous Milling Fixture*, June 9 p 55
Crankshafts, Forging One Throw at a Time*, June 23 p 71
Cutting Hydraulic Pump Gears*, May 12 p 94
Cylindrical Grinding, Speeds and Feeds To Use*, Mar 3 p 100
Drilling Square Holes on Lathe*, Mar 17 p 98
End Form Grinding Machine*, Mar 10 p 102
Finishing Machines, Micromatic Hone Corp.*, June 16 p 101
Ford Produces Parts From Metal Powders*, Mar 24 p 76
Hobbing Large Bull Gears*, June 9 p 86

9 p 86 Hot Milling High Strength Alloys* Apr 28 p 67
Lapping Compound, Timesaver
Products Co., Apr 21 p 89
Laundry Machinery Redesigned for
Welded Construction*, May

p 92
Malleable Iron*, June 2 p 73
Malleable Iron*, June 2 p 73
Metal Cutting Fluids*, Feb 10 p 60
Milling Aircraft Wing Skins*, May
5 p 78 Milling Auctralt Wing Salas, and 5 p 78
New Grind for Collets, Sheffer Collet Co., May 12 p 105
Production Processes, High Speed Motion Pictures Aid in Analysis*, May 5 p 82
Rack Slotting in a Rise and Fall Miller*, May 5 p 85
Scale Knife Edges and Bearings*, June 9 p 50
Steering Knuckles, Broaching*, Line 16 p 83

June 9 p 83 Steering Knuckles, Broaching 5 June 16 p 83 Supercharger Bucket Blades, Milling From Bar Stock*, June 23

p 60 Tracer Control Simplifies Roll Turning*, June 2 p 123 Workpiece Handling*, Jan 6 p 207 (See also Specific Operations)

Madison Mfg. Co.: Grinding Fixture*, Feb 24 p 103

Magnesium: Leaders Discuss Broader Applica-tions, Apr 28 p 124

Modified Surface Treatment, Apr 28 p 77 Treatment for Nodular Graphite Cast Iron*, Feb 24 p 97 (See also Nonferrous Metals)

Div.

Cros

Mer

dling

6 p %

heffield

T. E

Milto:

s and

ig. 1

Proc

High Ap

, Ap

roach

2 duce

p 5 Ma

May D 60 May

Jun hrov

ears* an

the

Ma

mati

l Metal

Jun

oys'

save d fo

зу

May

Col-

peed

Fall

ags"

ing

Mill-

Roll

103

lica

tagnus Chemical Co., Inc.: Cold Parts Cleaning Machine*, Apr 14 p 92

Hard falcor, H.: Forging Crankshafts One Throw at a Time*, June 23 p 71

South (alleable Founders' Society: Annual Meeting, June 23 p 120 Allory, P. R., & Co.: Electrode Holder, May 19 p 106 Improved Electrodes, June 16 p Har-p 101 Snyder Mar

Leak-Proof Electrode Holders, Mar 17 p 101

anagement:
AC Welders, Shift To Saves
Power*, May 5 p 99
Analysis of Prices, Wages and Costs
in the Steel Industry*, Jan 27 p 60 Armed Services Procurement*, Jan

6 p 162
Business Reacts Mildly to President's State of Union Message,
Jan 20 p 101
Carnegie-Illinois Safety Course,
Mar 10 p 180
Comics In Industry*, Apr 21 p 6 p 162

128 Control of Cupola Stack Emis-sions*, Apr 7 p 88 Detroit*, Jan 6 p 249 Explosive Safety Emphasized, Mar

J1 p 142 F.O.B. Mill*, Jan 6 p 168 Fringe Bill Adds 15 Pct to Wage Bill, May 26 p 152 GM Training Salesmen, Mar 10 p High Employment In 1949, Jan 20

p 109 Idleness Trend Due to Work Stoppages (Table), Feb 10 p 140

Stoppages (Table), Feb 10 p 140
Labor*, Jan 6 p 184
Labor Relations, New Slant, Mar 31 p 122
Machine Tool Industry Loses Skilled Workers; Low Order Volume Hinders Training Programs*, Feb 17 p 139
Machine Tool Plants, Low Productivity Seen*, Jan 13 p 102
Machine Tool Plants, Trends in Factory Man-Hours (Table), Jan 13 p 102
Plant Smoke and Waste Control Creating Cost Problem, June 30 p 101

101 Plating Waste Disposal*, June 16 rofit Sharing Studied, Feb 17 p

Profit Sharing Studied, Feb 17 p
152
Profits in Scrap*, Mar 17 p 86
Research*, Jan 6 p 241
Safety in Power Press Operations*,
Apr 7 p 103
Sharon Steel Corp. Industrial
Peace Cited, May 19 p 145
Social Security Fight, Philip Murray Ready, Mar 17 p 129
Spray Painting Control System*,
May 19 p 96
Steel and the Public*, Jan 6 p 178
Steel Capacity*, Jan 6 p 178
Strikes Back To Normal In 1948,
Feb 10 p 140
Training Tool and Diemaker Apprentices at Talon*, Feb 24 p 72
Work Stoppages (Table), Feb 10
p 140

p 140 World Steel*, Jan 6 p 191

anganese: Brazilian Prospects Brighter, May Brazilian Prospects Brighter, May 5 p 138
Current Status, Feb 10 p 125
Deposits Investigated, Apr 28 p 104
Foreign, Import and Consumption (Table), Mar 10 p 152
Russian, U. S. To Prove Can Do Without, Mar 10 p 151
(See also Nonferrous Metals)

fanitowoc Ship Building Co.: Radio Communication System Cuts Materals Handling Costs 15 Pct*, May 26 p 82

anning, Maxwell & Moore, Inc.: Conductor Cord Trolleys*, Jan 13 p 68 Thermal Switch, Apr 14 p 90

Mansco Grinding Wheel Co.: Grinding Wheels, Feb 3 p 126

Marbott Weld Co. : Steel Plate Clamp*, Mar 10 p 125

Marcellus Mfg. Co.: Releasing Tap Holder*, June 23 p 85

Market Forge Co.: Industrial Floor Truck, Jan 13 p 69

Marking Equipment:
Axle End Marker, M. E. Cunning-ham Co.*, May 19 p 106
Etcher-Demagnetizer, Crown In-dustrial Products Co.*, June 23

p 85
Marking Device, Mark-Tex Corp.,
June 30 p 68
Marking Machine, Acromark Co.,
Jan 27 p 83
Nameplate Marking Machine, Jas.
H. Matthews & Co.*, May 12 p

Plate Marking Machine, Acromark Co.*, Mar 3 p 114

Mark-Tex Corp.: Marking Device, June 30 p 68

Master Pneumatic Tool Co.: Midget Rotary Drill, May 19 p 105

Matco Tool Co.: Wheel Dresser*, Apr 7 p 106

Material Handling:
Adjustable Pallet Rack, Rack Engineering Co., Mar 24 p 95
All-Aluminum Conveyer, Mercury Conveyers, Inc.*, Mar 10 p 124
Apron and Slat Conveyers, Sage Equipment Co.*, June 2 p 86
Army Plans \$5 Million Equipment Purchase, Mar 3 p 189
Automatic Coil Feed, Denison Engineering Co.*, June 9 p 70
Belt Conveyer, Transall Inc.*, Jan 13 p 66

Belt Conveyer, Transall Inc.*, Jan 13 p 66
Car Shaker, Allis-Chalmers Mfg. Co., Apr 7 p 109
Carboy Tilter, General Scientific Equipment Co.*, June 16 p 104
Clamp Truck, Baker-Rauling Co.*, Apr 7 p 108
Clamshell Bucket for Lift Truck, Hyster Co.*, Mar 17 p 102
Cloth Adhesive Tape, Mystik Adhesive Products, June 30 p 69
Conductor Cord Trolleys, Manning Maxwell & Moore, Inc.*, Jan 13 p 68

p 68
Continuous Conveyer, Honan-Crane
Corp.*, Jan 13 p 65
Controversial Belt Conveyer System Mar 17 p 136
Corrugated Steel Box, Palmer-Shile Co., Jan 13 p 66
Crate Lifting Unit. Skarnes Engineering & Supply Co.*, Mar 31

p 84

p 84
Device Speeds Up Handling Between Presses, Feb 24 p 108
Die Handling Truck, Lyon-Raymond Corp.*, Apr 14 p 92
Die Handling Truck, Lyon-Raymond Corp.*, Jan 13 p 68
Die Transfer Table, Lyon-Raymond Corp., Feb 3 p 129
Die Truck, Lyon-Raymond Corp.*, May 12 p 104
Drag Clamp, Merrill Bros., Jan 13 p 69

Drop-Bottom Skid Bin Speeds Small Parts Handling*, May 26 69 Drum Carrier, Drumobile Div.*, Apr 7 p 108

Apr 7 p 108
Dumping Attachment, Yale &
Towne Mfg. Co.*, June 23 p 86
Economies Benefit Plant*, Jan 20

Economies Benefit Plant*, Jan 20 p 113
Electric Fork Truck, Crescent Truck Co., May 5 p 105
Electric Hoists, American Chain & Cable Co., Inc., Jan 13 p 65
Enameling Auto Window Moldings By Electrostatic Spray*, Feb 10 p 75
Exposition*, Jan 13 p 102
Floor Truck, Barrett-Cravens Co., Feb 10 p 86
Floor Type Tow Conveyer, Jervis B. Webb Co.*, Mar 3 p 113
Ford Produces Parts From Metal Powders*, Mar 24 p 76

Fork and Boom Attachment, El-well-Parker Electric Co.*, Apr 7 p 108 Fork

7 p 108
Fork Extensions, Lewis-Shepard Products, Inc., Jan 13 p 69
Fork Lift Truck, Yale & Towne Mfg. Co.*, June 9 p 72
Gasoline Industrial Trucks, Yale & Towne Mfg. Co.*, Feb 10 p 86
Gravity Roller Conveyers, Sage Equipment Co., Mar 24 p 94

Equipment Co., Mar 24 p 94
Heavy Duty Casters, Bassick Co.,
June 9 p 72
Hoist Limit Stop, Reading Chain &
Block Corp., Jan 13 p 66
Hydraulic Lifter, Service Caster &
Truck Corp., Jan 13 p 67
Improved Powered Wheelbarrow,
Kwik-Mix Co.*, Mar 3 p 114
Industrial Floor Truck, Market
Forge Co., Jan 13 p 69
Industrial Power Trucks, When
Can They Go Upstairs?*, May
5 p 94

5 p 94 Lift Kit, Clayborne Mfg. Co., June 23 p 87 Lift Truck, Lift Trucks, Inc., Feb

1 p 129
Lifting Magnet Controller, Electric Controller & Mig. Co., Apr 28 p 95 Lighting Vital in Operations, Feb

24 p 76 Lightweight Pallet Truck, Lyon-Raymond Corp.°, June 9 p 72 Lightweight Truck, Elwell-Parker Electric Co., Jan 27 p 83 Loader, Tractomotive Corp.°, May 26 p 88

26 p 88 Low-Platform Truck, Elwell-Par-ker Electric Co., Jan 13 p 66 Machining, Workpiece Handling*, Jan 6 p 207

aterial Handling Exposition*, Material Mechanization Needs Rise, May 12 164

p 164
Mobile Crane, Silent Hoist & Crane
Co., Inc.*, Jan 13 p 68
Monorail Carrier. American MonoRail Co.*, June 30 p 68
Open-Side Pallet Rack, Union
Metal Mfg. Co.*, May 26 p 88
Overland Belt Conveyer System,
Fight Looms, Mar 17 p 136
Package Conveyer, George Haiss
Mfg. Co., Inc., Jan 13 p 65
Packaging Material, Robert Gair
Co., Inc., June 9 p 73

Packacing Material, Robert Gair Co., Inc., June 9 p 73 Pallet Alignment Assembly, Paltier Corp.*, Jan 13 p 68 Pallet Racks, Equipment Mfg. Co., Inc., Jan 13 p 69 Pallet Truck, Yale & Towne Mfg. Co.*, Jan 13 p 65 Platform Truck, Rapids Standard

Co., Jan 13 p 69
Platform Utility Truck, Waprin
Corp., Jan 13 p 69
Portable Lift Truck, Lewis
Shepard Products, Inc.*, Jan 13

p 68 Portable Power Boosters, Sage Equipment Co., Jan 13 p 67 Powered Flat Conveyer, Leeds Electric & Mfg. Co.*, June 23 p 86

p 86 Proper Battery Maintenance Cuts Industrial Truck Operating Costs*, Mar 10 p 118 Radio Communications System Cuts Costs 15 Pct*, May 26 p

Reel Carrier, Lyon-Raymond Corp.*, Apr 14 p 92 Revolving Apron Attachment, Hy-ster Co., Apr 14 p 92 Roll-Handling Truck Attachment. Elwell-Parker Electric Co.*, Mar 10 p 124

Roll-Over Attachment, Mercury Mfg. Co., Mar 17 p 102
Sales Service Essential to Industry Health, Feb 24 p 76
Scrap Truck, Factory Service Co.*,

Scrap Truck. Factory Service Co.*, June 9 p 72
Selective Delivery System, Union Steel Products Co., Apr 21 p 89
Self-Loading Scoop Truck, Crescent Truck Co.*, Jan 13 p 66
Self-Propelled Crane, Thew Shovel Co., Jan 13 p 66
Show Plans Nearing Completion, Jan 6 p 382
Skid Box. Phillips Mine & Mill Supply Co.*, Jan 13 p 68
Sloped Bottom Box. Palmer-Shile Co.*, May 12 p 104

Stacking Truck, Automatic Transportation Co.*, Jan 13 p 67
Stainless Steel Coal Conveyor Belts
Tests Scheduled, June 16 p 133
Stamping Output Increased by
Automatic Transfer Presses*.

Tests Scheduled, June 16 p 133
Stamping Output Increased by
Automatic Transfer Presses*.
June 2 p 60
Steel Plate Clamp, Marbott Weld
Co.*, Mar 10 p 125
Steel Stacking Box, PalmerShile Co.*, June 16 p 103
Steel Wire Pallets, Pittsburgh
Steel Products Co., Feb 3 p 129
Storage Bins, Borroughs Mig. Co.,
June 16 p 105
Storage Bins, Fick-Gallagher Mig.
Co.*, June 30 p 68

Co.*, June 30 p 68

Telescopic Portable Conveyer, Wilkie Co.*, May 26 p 88

Tote Pan Lift Truck, Lyon Raymond Corp.*, Mar 3 p 114

Truck, Schwitzer-Cummins Co., Feb. 24, 104 Truck, Schwitzer-Cummins Co., Feb 24 104 Two Unusual Systems*, Apr 14 p

Two-Way Fork Attachment, El-well-Parker Electric Co.*, June 23 p 86 Vibratory Conveyer, Syntron Co.*,

Jan 13 p 67

Wheeled Fixture Speeds Truck Cah
Assembly*, Jan 20 p 58

Wide Drive Axle, Clark Equipment Co.*, Jan 13 p 67

Matthews, Jas. H., & Co.: Nameplate Marking Machine*, May 12 p 103

Mawson, Robert:
An Unusual Cam Milling Fixture*,
Jan 27 p 66
Welded Construction Drilling Jig*, May 19 p 94

Maxwell Co.: Forged Bits and Boring Bars*, Mar 24 p 94 Small Recessing Tools*, Jan 20 p

May, Don, Jr. and John C. Straub: Stress Peening*, Apr 21 p 66

Alvin and George H. fayne, Alvin and George In.
Blackett:
An Analysis of Prices, Wages and
Costs in the Steel Industry*,
Jan 27 p 60

Mead, Fred B. and F. V. Schilling: Shift to AC Welders Saves Power*, May 5 p 99

Mead Specialties Co.: Impact Air Hammer, Feb 17 p 102

Measuring Machines, Inc.: Contour Measuring Machine*, Mar 10 p 122

Mechanization Boosts Westinghouse Foundry Capacity, by A. D. Stout, Jr.*, Jan 13 p 55

Meehanite Metal Corp.: Nodular Iron, Notes on History, May 19 p 100

Melting and Casting Titanium*, Jan 13 p 58

Mercury Conveyors, Inc.: All-Aluminum Conveyer*, Mar 10 p 124

Mercury Mfg. Co.: Roll-Over Attachment, Mar 17 p 102

Merrill Bros.: Drag Clamp, Jan 13 p 69

Merz Engineering Co.: Electronic Surface Comparator*, Apr 21 p 87

Metal Congress & Exposition: Plans for 1949, Feb 17 p 148

Metal Cutting Fluids, by E. L. H. Bastian*, Feb 10 p 60

Metal Finishing, by Adolph Breg man*, Jan 6 p 275

Metal Goods Corp.: Monel Tie Wire, June 16 p 103

Metal Powder Assn.: Metal Powder Meeting*, Apr 14 p. 82

Metallizing: Flame Spray Pistol, Schori Proc-ess Div.*, Feb 24 p 104 New Developments Widen Use*, Mar 17 p 81

Metallographic Study Of Aluminum Alloy 3S, by L. J. Barker*, May 26 p 74

Metallurgy, by E. S. Kopecki*, Jan 6 p 216

Metallurgy and Heat Treatment of Cutting Tools, by P. Leckie-Ewing*, (Part II), Jan 13 p 61

Metallurgy;
Aluminum Alloy 38, Metallographic
Study*, May 26 p 74
Automatic
Arewelding, Significance of Speed*, Mar 10 p 98
Boron Steel, Production Use, June

Brass and Bronze Forgings*, May

12 p 78
Boron-Titanium Steels for Moderate
Temperatures*, June 16 p 90 Temperatures*, June 16 p 90
Cast Ferrous Materials for Subzero
Service*, June 9 p 46
Comparative Tool Steel Brands
(Table). Apr 28 p 85
Desulfurizing Hot Metal, May 12 p
83

83
Ductile Cast Iron A New Engineering Material*, Feb 17 p 76
Grain Refinement In Cast Aluminum*, Jan 20 p 66
Metallurgy*, Jan 6 p 216
Metallurgy and Heat Treatment of Cutting Tools*, (Part II), Jan 13 p 61

Cuttine Tools*, (Part II), Jan 13 p 61
Striding, Analysis Of*, (2 Parts)
Feb 10 p 68; Feb 17 p 93
Nitrogen in Steel*, June 30 p 52
Physical Properties of Reduced Iron Powder Plus Graphite and Copper*, Mar 24 p 81
Practical Applications of Stress Analysis at L-H*, Mar 17 p 76
Refractory Metals, Vapor-Phase Deposition*, June 16 p 98
Steel Castings, Isothermal Heat Treatment*, June 30 p 42
Tungsten Molybdenum Thermocomples*, Mar 31 p 65

Metals, Powdered: (See Powdered Metals)

Meters: (See Instruments)

Metric Lacquer Mfg. Co.: Flexible Synthetic Coating, Apr 7 p 109

Metron Instrument Co.: Miniature Speed Changes*, May 5 0 104 Tachometer, June 16 p 104

Michigan Tool Co.: Gear Gaging Device*, Jan 27 p 81

Michigan Wire Cloth Co.: Metal Filter Cloth, May 19 p 107

Micromatic Hone Corp.: Finishing Machines*, June 16 p 101

Microscopes: (See Instruments)

Mid-States Equipment Corp.: Automatic Arc Stabilizer*, Mar 3 p. 112

Midvale Co.: Forges 200,000 lb Alloy Steel Pressure Vessels*, Jan 27 p 73

Military Equipment: Services Procurement*, Ian Armed Services Procurement*, Jan 6 p 162 Contracts Could Go to Small Busi-ness, Jan 27 p 120 Postwar Buying, Feb 10 p 136 Stockpiling Program Speed Sought, Feb 24 p 112

Miller Electric Mfg. Co.: Welder-Timer Assembly*, Mar 10 p 122 Welding Generators*, June 2 p 84

Miller, J. R. Corp.:
Sub-Zero Automatic Equipment*,
Apr 21 p 88

Milling Aircraft Wing Skins, by T. E. Lloyd*, May 5 p 78

Milling Supercharger Bucket Blades From Bar Stock, by S. B. Fuerst*, June 23 p 60

Milling and Milling Machines:
Aircraft Wing Skins*, May 5 p 78
Alloys, Hot Mlling High Strength
at Elevated Temperatures*, Apr
28 p 67
Centering Machine, Davis &
Thompson Co.*, May 19 p 103
Continuous Fixture*, June 9 p 55
Contour Milling Machine, Sundstrand Machine Tool Co.*, Feb
24 p 101

strand Machine 1001
24 p 101
Fixture*, Jan 27 p 66
Machine, Kent-Owens Machine
Co.*, Feb 17 p 100
Machine Adapter, Greenville Tool
& Die Co.*, Apr 7 p 108
Machine, Sundstrand Machine Tool
Co.*, Apr 28 p 91
Machine, Whiton Machine Co.*,
Apr 28 p 91

Co.*, Apr 28 p 91
Machine, Whiton Machine Co.*,
Apr 28 p 91
Production Processes. High Speed
Motion Pictures Aid in Analysis*, May 5 p 82
Rack Slotting in a Rise and Fall
Miller*, May 5 p 85
Scale Knife Edges and Bearings,
Machining*, June 9 p 50
Special Machine, Kent-Owens Machine Co.*, June 30 p 66
Supercharger Bucket Blades From
Bar Stock*, June 23 p 60
(See also Machining and Machine
Tools)

Millis, Keith D., Albert P. Gagne-bin and Norman B. Pilling: Ductile Cast Iron—A New Engi-neering Material*, Feb 17 p 76

Milwaukee Foundry Equipment Co.: Jolt Pin Lifter*, Apr 7 p 106

Minerals:
Fuel Reserve Sufficient for 100 to 300 Years, May 19 p 143
Leasing Laws Change Recommended, Apr 7 p 156
Supply Crises in U. S., Feb 24 p 144 Taconite Utilization. Approach*.
Apr 14 p 70

Mine Safety Appliances Co.: Faceshield, Apr 28 p 95 Heat Mask, Feb 17 p 103

Mines Equipment Co.: Electrical Connectors, Mar 31 p 85

Mining Machine Parts, Inc.: Derail Guard, May 26 p 88

Mining: ining: Liberian Interest Receives Bank Credit to Assisst Development Work, May 12 p 135 Prices Dip Sharply, Mine Clos-ures Stiffen Metals Market, May

12 p 144 Producing Gas from Coal, Under ground Test to Determine Feasi

bility, Mar 24 p 132
Ruhr Coal Mining Gains De scribed, May 5 p 164
Submarginal Miners Given Con

Submarginal Miners Given Con-sideration, May 5 p 150 Subsidy Question Before Concress, May 26 p 118 Underground Development Plan-ned, June 2 p 117

Minnesota Mining & Mfg. Co.: Filament Tape, Apr 28 p 95

Mitchell, R. R.: Hydraulic Standards Seen Benefit ing Metalworking Industry* Industry".

Modern Electric Laboratory: Electric Furnaces*, May 5 p 102

Molding, Molds:
Casting Stainless Steel Centrifugally In Permanent Metal Molds*, Jan 27 p 56
Heat Abstraction, Determining by Molding Materials*, Apr 21 p 74

Precision Casting with Frozen Mercury*, Mar 17 p 94 (See also Casting; Foundry)

Molybdenum: Investigation Described in Report, Apr 21 p 138 Tunesten Thermocouples*, Mar 31 (See also Nonferrous Metals; Alloy Steel)

Monarch Machine Tool Co.: Air-Gage Tracer for Lathes*, Jan 27 p 79

Morey Machinery Co.: Automatic Luthe*, Mar 3 p 11 Roll Turning Lathe*, June 2 p 83

Nodular Iron, Notes on History, May 19 p 100

Morse Chain Co.: Rubber Center Coupling*, May 26 p 87

Morton Mfg. Co.: Flash Trimming Machines*, Jan 20 p 71

Motch & Merryweather Machinery External Hone*, May 19 p 105 Saw Blades, June 23 p 83

otors: Induction Motors, Electric Ma-chinery Mfg. Co., Jan 20 p 71 Motors, Redmond Co., Inc.*, Jan 20 p 74 Single Phase, Louis Allis Co.*.

20 p 74 Single Phase, Louis Allis Co.*, May 26 p 85 Synchronous Motors, Electric In-dicator Co., June 2 p 86 Unit Bearing Motors, General Electric Co., Mar 24 p 95 Unit-Cooled DC Motors, General Electric Co.*, Apr 28 p 93 (See also Electrical Equipment; (See also Electrica Plant Equipment)

Mounting Metallographic Specimens at Room Temperature, by Her-bert S. Kalish, Mar 10 p 109

Mull. Edgar K. and James C. Hartley: Ultrasonic Testing of Tool Steels*, May 19 p 80

Multifinish Mfg. Co.: Rotary Magnetic Tool*, May 26 p 88

Multi-Micro Cut Tool Co.: Rox Tool*, May 12 p 102

Munton Mfg. Co.: Motorized Bench Press*, May 19 p 104

Murphy, James A., & Co.: Compressed Air Separator, Apr 28 p 92

Mystik Adhesive Products: Cloth Adhesive Tape, June 30 p 69

Nankervis, George L., Co.: Buffing Compound Applicator*, June 2 p 84

National Acme Co.: Adjustable Blade Chaser*, Jan 20 p 73

National Assn. of Corrosion Engineers: Annual Conference⁶, Apr 14 p 129

National Bureau of Standards Porcelain Enamel, Acid P ment, June 6 p 100

National Carbon Co., Inc.: Carbon Bricks, June 2 p 86

National Cylinder Gas Co.: High Frequency Welders*, Mar 31 p 82

National Metal Congress: Production Economy Main Theme, June 23 p 142

National Planning Assn. Cites Sharon Steel Corp. Industr Peace, May 19 p 145

National Precision Tool Co.: Double-End Taps*, May 5

National Tube Co. : Heating Scamless Tubes For ing*, Apr 14 p 86

Neimeyer, Wm. I.: recision Casting with From Mercury Patterns*, Mar 17 p

Nelco Tool Co.: Carbide Tipped Tools*, May 26

New Developments Widen ing Use, by John E. W Mar 17 p 81 Wakefiel

New Grid Castin: Improves Batte Life, by Eu ene Willihmgan June 9 p 62

Niagara Blower Co.: After Cooler*, Feb 17 p 101

Niagara Machine & Tool Works: Hydraulic Press*, Jan 27 p 80

Perflow Process, Plating Eas Buffed Nickel*, June 16 p 86 U. S. Consumes 74 Pct; Preci Metals Losses Cut in Prod tion, May 12 p 162 (See also Nonferrous Metals)

Nielco Laboratories: Cleaning-Pickling Acid, Apr 14

Niles Rolling Mill Co.: Long Terne Sheet Output 1 creased, May 12 p 169 Sets Production Record, Apr 28 Sets 1 124

Nitriding: striding:
Analysis of*. (2 Parts), Feb 10
68; Feb 17 p 93
Metallurgy and Heat Treatment
Cutting Tools*, (Part II), J
13 p 61
(See also Steel, Treatment)

Nitrogen in Steel, by Simon Feig baum and George H. Entire June 30 p 52

Nobel & Stanton, Inc.: Midget Clamps, Apr 21 p 89

Nonferrous Metals, by John thony*, Jan 6 p 266

Ma

D

rod

in M.

Pe

R

Re

nfee

nfer

Elec

Hea

Nonferrous Metals: Boron-Titanium Steels for Mod-ate Temperatures*, June 16 p ate Temperatures*, June 16 p Copper and Tin Deposits Repor On, Jan 27 p 92
Melting and Casting Titanium
Jan 13 p 58

Nonferrous Metals, Forming a Shaping: Brass Powder Parts In Toys, M 24 p 71 Brass Rods*, Apr 14 p 66 Powder Metallurgy*, Mar 24 p Powder Metallurgy, No Panaco Mar 24 p 68 urface Protection for Di Aluminum*, Mar 10 p 106

Nonferrous Metals Industry: Alaska Considered Site For N Aluminum Facilities, Feb 10

Alcoa Outlook Optimistic on Al

Alcoa Outlook Optimistic on Alsminum Long-Range Demand Apr 14 p 145
Aluminum and Lead Imports Continue to Grow, Feb 10 p 148
Al u m in u m and Lead To B
Tighter in Marshall Plan Countries, Feb 3 p 161
Aluminum Market Grows Easier
Mar 17 p 133
Aluminum Market Grows Easier
Mar 17 p 133
Aluminum Market Turnabou
Causes Producers to Seek Net
Customers, June 9 p 113
Brazilian Manganese Prospect
Brighter, May 5 p 138
Canadian Copper Production Increases, Apr 7 p 182

anadian Ingots Production Ahead of 1948, June 9 p 109 onsumers' Inventory Reductions Affect Producers, Mar 3 p 192 opper and Zinc Feel Price Reductions, May 5 p 184 opper, Lead, Zinc Price Reductions Fall to Spur Demand, June 1518

riviustra

p 10a

For S

BV 26

1 orks

ls)

pr 16

out

pr 2

eb 1

Feig Inclin

89

111

Mod 16 p

epor

miu

g a

s, Ma

4 p

rawi

F N

n Alu eman

asici nabe c N

spect

n I

n 158

2 p 158
Copper, Zinc Prices Slip; Lead
Holds Firm, June 23 p 156
Detinning Plant Begins Operations, June 16 p 146
Early Aluminum Delivery for Wire
and Cable, Feb 17 p 166
Toreign Producers' Price Views
Factor in Domestic Market, Feb From p 166

Metallis Refield Batte

24 p 166 ferman Aluminum Clad Mills Resume Production, Mar 3 p 99 mget and Scrap Prices Dron Sharply, Feb 3 p 206 aganese Aluminum Industry Described, June 9 p 130 fead and Zine Producers Report Foreign Offers, Jan 27 p 140 fead and Zine Reductions Fail to Tempt Consumers, Apr 14 p 168 fead Cut 11/6 per lb; Other Metals Weak, Mar 17 p 170 fead Market Easier; Copper and Zine Shortages Acute, Jan 13 p 114 Price Fall to Affect 1949 De

referrice Fall to Affect 1949 Development. Apr 14 p 125
ead, Zinc Cut 1¢: Other Metals
Hold Former Prices Weakly,
May 26 p 158
farmesium Leaders Discuss
Broader Applications, Apr 28 p
124

124
larket Weak Following Price Reductions, Apr 7 p 186
letal Powder Meeting Set for Chicago, Mar 24 p 75
lonferrous Metals*, Jan 6 p 266
lorthwest Aluminum Production
Sliding Off, May 26 p 100
literade Pig Tin Restrictions
Eased For Private Imports, May
12 p 152

12 p 152

12 p 152
Fernanente Ohio Aluminum Mill,
May 13 p 140
Trice Reduction Repeat Cause Consumers to He-sitate, Apr 28 p 156
Trice Slashing Series Halted; Markets Remain Dull, June 9 p 140
Trices Dip Sharply, Mine Closures
Stiffen Metals Market, May 12
p 144 p 144

p 144
crap Price Slip Not Reflected in Primary Metals, Mar 10 p 182
4 Pet World Nickel Consumption by U. S.; Precious Metals Losses Cut in Production, May 12 p 162

tockpiling Measures Tonic for Markets, June 30 p 116 trengthening Factors Seen, May 19 p 168

19 p 108

Pet Wage Demand by Workers, Mar 24 p 140
roduction Curtailments Seen:
Prices Edge Downward, June 16
p 166

p 166 hird Quarter Export Quota, June 9 p 136 in Conservation Changes Re-ported; Consumers Benefit, Apr 7 p 154

ported: Consultation Seen Possible, 7 p 154
Fin Price Reduction Seen Possible, May 19 p 147
Western Copper and Alloy Products Manufacturers Strengthen Position, Mar 24 p 106
Jine and Copper Price Reductions Recorded, Apr 21 p 162
Zine Price Cut Followed by Scrap Reductions, Mar 31 p 148

nfeerrous Metals, Metallurgy: See Metallurgy)

nferrous Metals, Production: Nonferrous Metals*, Jan 6 p 266

onferrous Metals, Treatment: Brass and Bronze Forgings*, May 12 p 78 Brass Rods*, Apr 14 p 66 Electropolishing Brass*, June 30

48

p 48
rid Casting Improves Battery
Life*, June 9 p 62
leat Treatment of Aluminum
Casting Alloys*, (2 Parts), Mar
3 p 88; Mar 10 p 110 Heat

How to Heat Treat Beryllium Copper*, Feb 24 p 78 Melting and Casting Titanium*, Jan 13 p 58

Nooter Boiler Works Co.: Expansion Program, Feb 3 p 180

North American Aircraft Corp.: Milling Aircraft Wing Skins*, May 5 p 78

North American Mfg. Co.: Boiler Burner^o, June 17 p 103

Northwest Chemical Co.: Water Wash Compound, May 12 p 103

Northwestern Tool & Engineering Co.: Small Tools, Apr 14 p 93

Norton Co.; Ceramic Surface Plate*, Apr 7 p 107

Norway: Strive for Self Sufficiency; Studies Our Equipment and Practices. May 12 p 143

N:S Relationship in Endurance Test ing, by Michael G. Corson*, Mar 10 p 103

Nuts, Bolts, Screws: (See Fasteners)

0

Ohio Electric Mfg. Co.: Lifting Magnet, Apr 14 p 92

Ohio Nut & Bolt Co.: Spotweld Nuts and Screws*, May 19 p 105

Ohio Seamless Tube Co.: Doubles Net Profit, Jan 27 p 138

Oil: Metal Cutting Fluids*, Feb 10 p 60 Quenching Media, Effect of Con-tamination*, May 5 p 88 (See also Coolants, Lubricants)

Oilgear Co.: Broaching Machine*, Mar 24 p 91 Horizontal Assembling Press*, Feb Vertical Broaching Machine*, Mar

Oldsmobile Motor Div.: Heliarc Welding Automobile Fenders*, Jan 13 p 51 Gaging Techniques In Producing New Engine*, Feb 10 p 78

Oldsmobile Uses Modern Gaging Techniques In Producing New Engine, by Herbert Chase*, Feb 10 p 78

100 Valve Tappets A Minute, by Vin cent Trolley*, Feb 3 p 110

O'Neil-Irwin Mfg. Co.: Bender Cabinet, June 9 p 71 Radius Brake*, Jan 27 p 80

Optimus Equipment Co.: Spotless Dryer*, Mar 3 p 112

Ore, Ferrous: Brown Iron Ore Report, May 5 p 162
Chromite Ore and Asbestos Deposits in Alaska, May 12 p 160
Canadian Future Linked With Costs, Mar 10 p 160
Canadian Iron Output Up, Mar 17

p 125
Canadian Search North of QuebecLabrador, Feb 3 p 165
Dominican Ore Deposit Found,
June 9 p 114
February Consumption Up, Mar 24 Ore Use Tested, May 12 p

Fine Ore Use Tested, May 12 p 146 Fused Ore For the Openhearth*, Apr 7 p 82 Future Iron Ore Supply Program Outlined, Mar 17 p 148

High Peacetime Movement In 1049*, Mar 31 p 121 Iron Ore*, Jan 6 p 229 Labrador Ore May Benefit New England, June 30 p 106 Labrador Reserves Increased with New Deposits, Apr 28 p 132 Labrador Smelting Plan for Pro-posed Ore Output, Apr 14 p 140 Liberia Openhearth Grade, Feb 24 p 143

Oregon Iron Evaluated, Mar 17 p 114

114
Price Increases Brighten QuebecLabrador Outlook, Jan 20 p 114
Shasta Electric Furnace Pilot
Plant Continues Experiments;
No Commercial Possibilities Developed, June 2 p 98
Taconte Utilization, Approach*,
Apr 14 p 70
U. S. and Canadian Blast Furnace
January Consumption, Mar 3 p
140
U. S. and Canadian Consensation

S. and Canadian Consumption Hits Peacetime Peak, Apr 28 p

Venezuelan Developments En counter Transportation Oh stacle*, Mar 3 p 149

Ore, Nonferrous: Nonferrous Metals*, Jan 6 p 266

Osborn Mfg. Co.: Drum Cleaning Machine, Mar 3 p 114

Drying Oven, Harry W. Dietert Co.*, Feb 3 p 127

Oxo Welding Equipment Co.: Welding Regulator, Apr 14 14 p 90

Cupola Blast, Added to, May 26 p Enriched Cupola Blast, Mar 31 p Enriched Cupola Blast Used, Ian Enriched Cupola Blast Used, Ian 27 p 65 Enrichment in the Low-Shaft Fur-nace, June 23 p 70 Intermittent Enrichment of the Cupola Blast*, May 12 p 96 Texas Tonnace Plant Wine Spurs*, June 9 p 107

Packaging: (See Containers: Material Han-

Packard, W. V.:
Iron Age Staff Changes*, June 30 p 97
Italian Steelmakers Aim at Modern Plant, Competitive Prices, Apr 14 p 130
Labor*, Jan 6 p 184
Lake Eric and Ohio River Terminal Belt Conveyer*, Feb 10 p 126

Machine Tool Inquiries Greatest Volume Since War, June 30 p

103
Malleable Founders Stress Market
Need, June 23 p 120
New England Employment, Backlous, New Orders Declining,
May 5 p 133
New England Steel Plant Hopes,
Jan 27 p 109
Steelmakers See Good Export
Prospects for Balance of Year,
June 2 p 115

Painter, Richard O.: High Speed Motion Pictures Aid in Analysis of Producton Proc-esses*, May 5 p 82

Painting: (See Cleaning and Finishing)

Palmer-Shile Co.:
Air Valve, May 19 p 106
Corrugated Steel Box, Jan 13 p 66
Sloped Bottom Box*, May 12 p 104
Steel Stacking Box*, June 16 p

Paltier Corp.: Pallet Alignment Assembly*, Jan 13 p 68

Panalarm Products, Inc.: Signal Systems, Mar 31 p 85

Pangborn Corp.: Blast Cleaning Cabinet*, Feb 3 p 127

Parker Appliance Co.: Check Valves, Feb 10 p 85 Tube Fitting, Jan 27 p 81

Parks Engineering Co.: Fracturing Connecting Rods Assures Perfect Alienment*, May 5 p 81

Patton, W. G.: Auto Industry Not Due To Cut Peak Production Now*, June 23

p 117
Detroit*, Jan 6 p 249
Detroit Steel Demand Kept Up by
High Auto Production Schedules, Mar 24 p 121
Steel Sees Weakness In Autos, Jan
20 p 103

Paxson Machine Co.; Hydraulic Pay Off Reel*, June 9 p 70

Peabody Engineering Corp.: Automatic Burner*, Feb 17 p 102

Peening: (See Nonierrous Metals, Treatment; Steel, Treatment)

Pereny Equipment Co.:
Electric Furnace*, Apr 28 p 93
Molybdenum-Vacuum Furnace*,
June 23 p 84

Permanente Metals Corp.: Aluminum Rod Mill Purchased. June 16 p 154 Foil Mill Expect Soon. Jan 13 p 82 Prime Coating Aluminum Sheet*, Jan 13 p 42

Permanente Products Co.: New Aluminum Alloy, May 12 p 105

Ferry, Reginald: Training Tool and Diemaker Apprentices at Talon*, Feb 24 p 72

Personnel: (See Labor; Management)

Phair. W. A.: fron Age Staff Changes*, June 30 p 97

Philadelphia Electric Co.: Lighting Vital in Handling Opera-tons, Feb 24 p 76

Phllips Mine & Mill Supply Co.: Skid Box*, Jan 13 p 68

Photographic Equipment: High Speed Motion Pictures Aid in Analysis of Production Processes*, May 5 p 82

Photoswitch Inc.: Delayed Action Control Unit*. June 16 p 103 Smoke Indicator*, Feb 24 p 104

Physical Properties of Reduced Iron Powder Plus Graphite and Cop-per, by George Stern*, Mar 24 p 81

Pickling: Cold Forming Stainless Steels*, (2 Parts), Mar 31 p 58; Apr 7 p 93 Fog, Eliminating*, May 26 p 79 (See also Steel, Treatment)

Pig Iron:
Allocations Reviewed, Jan 27 p 127
Allocations Suspended Under Voluntary Program, May 26 p 121
Austrian Purchased for Japan.
June 9 p 84
Buyers Market Returns for Consumers, Mar 31 p 125
Canadian March Production Sets
All-Time High, June 2 p 151
Canadian Production. November.
Jan 27 p 122; 1948 total, Feli
24 p 139
December 1948 Output Sets Rec-

24 p 139
December 1948 Output Sets Record, Feb 10 p 139
Eastern Producers Piling More
Than Shipping, June 2 p 122

Offerings In Eastern Market Grow, Feb 10 p 112

Grow, Feb 10 p 112
Prices Eyed by Purchasing Agents,
May 19 p 137
Price Testing Due After Steel,
Coal Negotiations Settled, June
23 p 115

23 p 115
Producers Face Decline in D
mand, Prices*, Apr 21 p 119
Record Year Seen, Mar 10 p 161

Pilling, Norman B., Albert P. Gagne-bin and Keith D. Millis: Ductile Cast Iron—A New Engi-neering Material*, Feb 17 p 76

Pines Engineering Co., Inc.: Tube End Finishing Machine*, Apr 7 p 105

Pioneer Broach Co.: Square Hole Punch*, Feb 10 p 86

Pipe. Tubes: ipe. Tubes:
Argentina Sponsors New Seamless
Tube Mill, Mar 17 p 131
Canadian Company Orders Equipment, May 19 p 140
Centrifugal Cast Pipe Production
Increased, May 5 p 118
Electriweld Tubing, Jones &
Laughlin Steel Corp., May 26 p
86

Raughin Stee Corp., May 26 p

86
Germans Use Scrap for New Industry*, Mar 24 p 131

Heating Seamless Tubes For Sizing*, Apr 14 p 86
Linepipe Supply Remaining Tight for One Year*, May 12 p 137
Lower Quotations Reflect Zinc Price Reduction, May 19 p 139

Pare-Hersey \$5 Million Pipe Mill Operating Soon, May 19 p 139

Radiant Heating Market Eyed by Producers*, Mar 24 p 125

Tube End Finishing Machine, Pines Engineering Co., Inc.*, Apr 7 p 105

Pines Engineering
Apr 7 p 105
the Flaring Machin

Apr 7 p 105 uhe Flaring Machine, Leonard Precision Products Co.*, June 16

Precision Products Co.*, June 16 p 102
25,000 Tons Exported for Arabian Pipeline, Mar 3 p 146
Welding 4 to 6 Pct Chrome Pipe*, Apr 7 p 102
Western Reserve Steel Corp. Plans Mill, Jan 27 p 123
Zine Price Reduction; Lower Quotations, Apr 14 p 126
Zine Price Reduction Reflected in Lower Quotations, June 23 p

Lower Quotations, June 23

Zinc Price Reduction Reflected in Lower Quotations, May 5 p 144

Pittsburgh Lectrodryer Corp.: Dehumidifier, Apr 14 p 91

Pittsburgh Steel Products Co.: Steel Wire Pallets, Feb 3 p 129

Planing and Shaping: Milling Aircraft Wing Skins*, May 5 p 78 5 p 78 Shaper, Logan Engineering Co.*, June 30 p 65 Utility Shapers, Cincinnati Shaper Co.*, June 23 p 83 (See also Machinery and Machine Tools)

Plant Equipment:
After Cooler, Niagara Blower Co.*,
Feb 17 p 101
Air Compressors, DeVilbisss Co.*,
Mar 24 p 93
Air Crarking Motor, Leece-Neville
Co., May 5 p 105
Air Exhaust Muffler, Allied Witan
Co., Apr 28 p 94
Air-Gas Compressor, White-Roth
Machine Corp.*, Feb 3 p 128
Air-Gas Conditioner, Selas Corp. of
America*, May 26 p 86
Air-Operated Pump, Gray Co.,
Inc.*, June 2 p 85
Annealing Gas Generator, Baker &
Co., Inc., May 19 p 106
Automatic Burner, Peabody Engineering Corp.*, Feb 17 p 102
Automatic Fire Extinguisher, StopFire, Inc., Feb 10 p 87

Automatic Fire Extinguisher. Step. Fire, Inc., Feb 10 p 87
Bearings Cleaning, Fast Methods.*, May 26 p 73
Bin Shake-Out Vibrators, Cleveland Vibrator Co.*, Mar 3 p 113
Blowers, Lindberg Engineering Blowers, Lindberg Co.*, Mar 17 p 102

Burner, North American Co.*, June 17 p 103 Plates, Fab-Weld Corp.*,

Boiler Burner, North American Mig. Co.*, June 17 p 103 Bridge Plates. Fab-Weld Corp.*, Mar 24 p 94 Broken Tool Remover, Elox Corp.*, Jan 20 p 73 Centrifugal Compressors for Hydrocol Plant.*, May 13 p 142 Centrifugal Pump, Eastern Industries, Inc., Feb 3 p 127 Centrifugal Pump ps., Graymills Corp., Feb 17 p 103 Chain Repair Set, Atlas Chain & Mig. Co., May 5 p 105 Coated Fabric Gloves, Surety Rubber Co., Mar 17 p 103 Coil Weight Calculator, F. J. Littell Machine Co., Mar 31 p 85 Compressed Air Conditioner, Hannifin Corp.*, Jan 20 p 74 Compressed Air Conditioner, Hannifin Corp.*, Jan 20 p 74 Compressed Air Separator, James A. Murphy & Co., Apr 28 p 92 Control of Cupola Stack Emissions*, Apr 7 p 88 Crane Conditioner, Lintern Corp., Jun 30 p 68 Dehumidifier. Pittsburgh Lectro-

stons*, Apr 7 p 88

Crane Conditioner, Lintern Corp.,
June 30 p 68

Dehumidiner, Pittsburgh Lectrodryer Corp., Apr 14 p 91

Derail Guard, Mining Machine
Parts, Inc., May 26 p 88

Dry Chemical Extinguisher, General Detroit Corp., June 16 p 105

Dry Lime Treatment of Waste
Pickle Liquor*, Jan 20 p 48

Dust Control Unit, American Air
Filter Co.*, Apr 7 p 107

Electric Immersion Heaters, Edwin
L. Wiegand Co., Apr 7 p 106

Explosion-Proof Heater, Electromode Corp., Apr 14 p 92

Face Shield, Mine Safety Appliances Co., Apr 28 p 95

Floor Surfacing Material, United

Floor Surfacing Material, United Laboratories, Inc., June 30 p 69 Full-Vision Crane Cab, Whiting Corp., Mar 3 p 115

Gas Boiler Burner, Bryant Industrial Div., Mar 24 p 95
Goggles, Chicago Eye Shield Co.,
Mar 31 p 85

Gorgies, Chicago Eye Sinea Co.,
Mar 31 p 85
Gusher Pumps, Ruthman Machinery Co.*, Feb 24 p 103
Hammer Vibration Isolation, Korfund Co., Apr 28 p 95
Hand Pump, Romec Pump Co.,
Apr 14 p 92
Heat Mask, Mine Safety Appliances Co., Feb 17 p 103
Holding Fixture, Erickson Tools
Div., Jan 27 p 81
Hydraulic Pay-Off Reel, Paxson
Machine Co.*, June 9 p 70
Hydraulic Weighing Cell, Baldwin
Locomotive Works*, Feb 24 p
105

Inpregnated Salt Tablets, U. S.
Safety Service Co., June 16 p 105
Industrial Mixer, United Electric
Motor Co., May 19 p 107
Lifting Magnet, Ohio Electric Mig.
Co., Apr 14 p 92
Lighting Vital in Handling Operations, Feb 24 p 76
Lightweight Compressor, Davey
Compressor Co., Mar 3 p 114
Lightweight Propane Cylinders,
Harrisburg Steel Corp., May 26
p 88

Magnetic Separators, Dings Magnetic Separator Co.*, Mar 10 p 124
Material Handling Economies
Benefit Plant,* Jan 20 p 113
Material Handling Exposition*,
Jan 13 p 102-D
Material Handling Exposition*,

Material Handling Exposition*, Jan 20 p 54
Microfilm Reader, American Opti-cal Co., Apr 21 p 89
Oil Purifier, Honan-Crane Corp.*, Jan 27 p 82
Pants Guard, Safety Clothing & Equipment Co., June 9 p 73
Permanent Magnetic Pulley. Stearns Magnetic Mig. Co.*, Mar 10 p 124

Perma-Plate Magnet, Dings Mag-netic Separator Co.*, Mar 3 p

113
Pipe Plugs, Allen Mfg. Co., June 23 p 87
Plastic Coated Work Glove, Belle City Glove Co., Jan 20 p 75
Portable Transfer Unit, J. S. Fauver Co.*, May 12 p 104

Power Jacks, Duff-Norton Mig. Co., June 2 p 87 Power Strapping Machines, Sig-node Steel Strapping Co.*, Feb 17 p 102

17 p 102 Preciptron, All-Aluminum, West-inghouse Electric Corp., Feb. 24

102

p 102
Proper Battery Maintenance Cuts
Industrial Truck Operating
Costs*, Mar 10 p 118
Radio Communications System
Cuts Materials Handling Costs
15 Pet*, May 26 p 82
Reflecting Hose, Quaker Rubber
Corp., Mar 24 p 95
Rolling Maintenance Tower, Safway Steel Products, Inc.*, June
30 p 68

30 p 68

Rotary Compressing Machine, F. J. Stokes Machine Co.*, Apr 28 p 92

p 92
Rotating Carrier, Cleveland Tramrail Div.*, May 12 p 104
Safety in Power Press Operations*, Apr 7 p 103
Scale Weight Printer, Yale & Towne Mig. Co., Mar 3 p 114
Side Entering Mixer, Eastern Industries, Inc.*, May 26 p 88
Signal Systems, Panalarm Products, Inc., Mar 31 p 85
Stoke Detect.

Signal Systems, Panalarm Products, Inc., Mar 31 p 85
Smoke Detector, Walter Kiddie & Co., Inc.*, Apr 21 p 88
Smoke Density Indicator, General Electric Co., Apr 7 p 109
Smoke Indicator, Photoswitch, Inc.*, Feb 24 p 104
Sonic Agglomeration of Smoke and

Sonic Agglomeration of Smoke and Dust, Apr 7 p 104
Steel Drawer Cabinets, Aurora Equipto Co., Apr 28 p 95
Steel Strapping, Allegheny Steel Band Co., Jan 20 p 75
Steel Work Bench, Equipto, June 30 p 69
Swivel Ball Joint Coupling, Kelite Products, Inc.*, Apr 28 p 94
Tool Balancer, Platz Co., June 16 p 103
Torque Bar, Richmont, Inc., Jan

p 103 Torque Bar, Richmont, Inc., Jan 20 p 74 Translucent Battery Plug, Gould Storage Battery Corp., June 16 p 105

p 105
Ultrasonic Generators for Industrial Dust Control, Apr 14 p 88
Vibrating Screens, Syntron Co.*,
Apr 7 p 107
Vibration Dampener, Hard Rubber
Co., May 5 p 104
Vibration Dampener, Western Felt
Works, May 26 p 89
Wire Rope Slings, Union Wire
Rope Corp., Feb 10 p 87

Plant Layout: Industrial Power Trucks, Whe Can They Go Upstairs?*, May p 94

terial Handling Economies Material Handling Economies Benefit Plant*, Jan 20 p 13 Mechanization Boosts Westing-house Foundry Capacity*, Jan 13 p 55 Two Unusual Material Handling Systems*, Apr 14 p 76 Wheeled Fixture Speeds Truck Cah Assembly*, Jan 20 p 58

Fixtures and Patterns, Protected in Open Storage*, June 30 p 55 Injection Molding Machine*, Jan 27 p 113
Metal Finishing*, Jan 6 p 275
Plastics Tap, Hy-Pro Tool Co.,
Feb 3 p 128

Plate, Sheet, Strip:
Crucible Ultra Modern Mill
Opened*, May 19 p 90
Gary Sheet and Tin Mill Modernization Completed*, Mar 17 p 91
Hand Mills Face Foreclosure of
War-Induced Lease on Life*,
Apr 21 p 117
Mill Starts Production*, Jan 20
p 111

Mill Starts Production*, Jan 20 p 111
Prime Coating Aluminum Sheet*, Jan 13 p 42
Reversing Hot Strip Mill, Evolution*, May 19 p 86
Sheets, Rejects Hit By Consumer Selectivity, June 9 p 101
Strain Gages Measure Roll Force, Torque and Strip Tension, Feb 24 p 71
(See also Steel, Production)

Plating: (See Cleaning and Finishing; Elec troplating)

Plating Easily Buffed Nickel The Perflow Process, by Blair*, June 16 p 86

Plating Waste Disposal, by Jerome L. Bleiweis*, June 16 p 79

Platz Co.: Tool Balancer, June 16 p 103

Porcelain Enamel:
Acid Pretreatment, June 16 p 10
Applying Titanium Enamels Director Titanium Steels*, Jan 27 p 7
Enameling At Lustron*, Apr 14

Products Pre-Shipment Tested Jan 13 p 108
Vitreous Enamels for Alumina
Jan 13 p 57
(See also Ceramics)

Porcelain Enameling at Lustron, h E. E. Howe*, Apr 14 p 72

Potter Instrument Co.: Electronic Tinplate Counter*, Jun 9 p 71

eisic

Gu

Hyd

Mot

Potter, R. D. and N. J. Grant: Tungsten-Molybdenum The couples*, Mar 31 p 65

Powder Metallurgy, by G. J. Comstock, John D. Shaw, C. L. Clark and W. V. Knopp*, Mar 24 p 72

Powder Metallurgy, No Panacea, by R. L. Ziegfeld and K. H. Roll* Mar 24 p 68

Powdered Metals: Brass Powder Parts In Toys, Mar 24 p 71

Brass Powder Parts In Toys, Mar 24 p 71
Ford Produces Parts From Metal Powders*, Mar 24 p 76
Hall Receives Stevens Annual Award, June 2 p 127
Magnetic Fluid Clutch Employs Iron Powder*, Mar 24 p 90
Magnetic Fluid Clutch Principles Exhibited, Mar 17 p 145
Meeting*, Apr 14 p 82
Metal Powder Meeting Set for Chicago*, Mar 24 p 75
Metal Powder Standards, Jan 20 p 53
Physical Properties of Reduced

p 53
Physical Properties of Reduced
Iron Powder Plus Graphite and
Copper*, Mar 24 p 81
Powder Metallurgy*, Mar 24 p 72
Powder Metallurgy, No Panacea*,
Mar 24 p 68
Pressed Metal Powder Applica

tions in the Automotive Industry*, Mar 24 p 86
Steel Powders, Prealloyed*, March

Steer Powders, Freathyed, Marcu 31 p 78
Tungsten Powders Made With Predictable Size, Mar 10 p 154
TV Parts Made by Powder Metallurgy*, Mar 24 p 74

Power Equipment Co.: Rectifier Power Supply, Mar 10 p

Power Transmission:
Automatic Transmission, Western
Mig. Co., Jan 27 p 80
Belt Conveyer Carrier, StephensAdamson Mig. Co., May 5 p 105
Magnetic Fluid Clutch Employs
Iron Powder*, Mar 24 p 90
Miniature Speed Changer, Metron
Instrument Co.*, May 5 p 104
Rivetless Conveyer Chain, Jervis
B. Webb Co.*, Apr 21 p 88
Rubber Center Coupling, Morse
Chain Co.*, May 26 p 87
Speed Reducer, Euclid Universal
Machine, Mar 31 p 82
Torque Control Couplings, Buffalo
Machinery Co., Inc.*, Jan 20 p 74
Variable Speed Control Unit.
Speed Selector Inc., June 9 p 72
Variable Speed Transmissions.
Graham Transmissions Inc., Feb
3 p 127

3 p 127 Variable Speed Transmission, Graham Transmissions Inc., June 23

W

Practical Applications of Stress Analysis at I-H, by John A. Hal-gren, S. A. Sheridan and Ber-nard Goodman*, Mar 17 p 76

I; Elec

T. 9

Jerome

0.2

p 100 Direct 27 p 77 pr 14 p

Tested

72 ton, by

. June

ermo

Com C. L. Mar

s, Mar

Meta

nua

mploys 90

nciple

or Chi-

an 20 educed

te and p 72

March

h Pre-

Metal

10 p

estern

phens

ploys

Jervis

Morse

versal

uffalo 0 p 74 Unit, p 72 sions,

sions.

ne 23

tetical Method for Determining Heat Abstraction by Molding Materials, by T. T. Rick*, Apr

att & Whitney: Carbide Thread Ring Gages*, Feb 10 p 86 Continuous Limit Gage*, June 16

p 102 Light Signal Device*, Apr 7 p 107 Piston Gage*, Apr 21 p 87 Piston Gage*, Feb 24 p 101 Reversible Plug Gages*, Mar 17

alloyed Steel Powders, by George A. Roberts and Arthur H. Grobe*, Mar 31 p 78

cision Casting with Frozen Mer-cury Patterns, by Wm. I. Nei-meyer*, Mar 17 p 94

cise Products Co., Inc.: Grinder-Miller*, Apr 14 p 91

cision Scientific Co.: Fore Sand Testing Equipment*, Apr 21 p 85

dicting Carbon Penetration Curves in Carburizing, by A. G. Guy*, Jan 27 p 74

ssed Metal Powder Applications in the Automotive Industry, by D. C. Bradley*, Mar 24 p 86

sses:
Products, Inc.*, Mar 17 p 101
Bending Press, R. D. Wood Co.*,
Jan 27 p 80
Extrusion Press, R. Hydropress,
Inc.*, Apr 21 p 86
Elanging Press, R. D. Wood*, Jan
27 8 80

27 p 80

27 p. 80 orming Press, R. D. Wood Co.*, Jan 20 p. 72 igh Production Presses, Danly Machine Specialties, Inc.*, Apr.

Machine Specialties, Inc.*, Apr 21 p 86 Horizontal Assembling Press, Oil-gear Co.*, Feb 10 p 84 Hydraulic Press, Denison Engi-neering Co.*, Apr 28 p 92 Hydraulic Press, Niagara Machine & Tool Works*, Jan 27 p 80 Motorized Bench Press, Munton Mfg. Co.*, May 19 p 104 Notching Units, Wales-Strippit Corp.*, Mar 24 p 94 Pneumatic Presses, Clayton Mfg.

Corp.*, Mar 24 p 94
Pneumatic Presses, Clayton Míg.
Co.*, Feb 24 p 103
Power Press Brakes, Columbia Machinery & Engineering Corp.*,
Jan 20 p 71
Powder Metal Press, F. J. Stokes
Machine Co.*, Feb 3 p 126
Press Control Unit, Emmett Machine & Míg., Inc.*, Mar 31 p
84

Production Press, Taber Instru-ment Corp.*, May 5 p 102 Punch Press Feeder, Walsh Spe-cialty Co., Inc.*, June 2 p 84 Punch Press Pitman, Dayton Rogers Mfg. C., Apr 7 p 107 Punch Press, Service Machine Co.*, Apr 7 p 105 Safety in Operations*, Apr 7 p 103 Sheet Metal Drawing Press, Hy-draulic Press Mfg. Co.*, Mar 17 p 99

Shop Presses, Rodgers Hydraulic, Inc.*, June 9 p 70
Stamping Press, Warco Press Div.*, Feb 10 p 84
Standardized Presses, Denison Engineering Co., Mar 31 p 81
Standardized Presses, Dake Engine Co.*, Apr 21 p 88
Two Point Toggle Press, Cleveland Punch & Shear Works Co.*, June 9 p 69
Welding Scrapped Locomotive Axles for Large Dies*. June 2 p

elding Scrapped Locomotive Axles for Large Dies*, June 2 p

ASTE Studies Basic Metal Processing Techniques*, Mar 31 p 74
Brass Powder Parts In Toys, Mar
24 p 71

Cold Forming Stainless Steels*, (2 Parts), Mar 3 p 58; Apr 7

(2 Parts), Mar 3 p 58; Apr 7 p 93
Crankshafts, Forging One Throw at a Time*, June 23 p 71
English Drop Forging Team To Study, American Methods, June 23 p 126
Forging Industry Feels Less Demand From Cost Conscious Buyers, May 12 p 133
Forging 200,000 lb Alloy Steel Pressure Vessels*, Jan 27 p 73
Ford Produces Parts From Metal Powders*, Mar 24 p 76
100 Valve Tappets A Minute*, Feb 3 p 110
Powder Metallurgy*, Mar 24 p 72
Powder Metallurgy*, No Panacea*, Mar 24 p 68
Pressed Metal Powder Applications

Mar 24 p 68
Pressed Metal Powder Applications in the Automotive Industry*, Mar 24 p 86
Pressing Tubes Into Axle Housings*, Apr 14 p 85
Progressive Dies Form House Panels, June 16 p 92
Punch and Die Units, Great Western Tools, Inc.*, May 19 p 105

p 105
Safety In Operations*, Apr 7 p 103
Stamping Industry Facing Severe
Testing Period, May 5 p 145
Stamping Output Increased by
Automatic Transfer Presses*,
June 2 p 60
Straightening Shafte* May 12 p 100

June 2 p 60
Straightening Shafts*, May 12 p 100
TV Parts Made by Powder Metal-lurgy*, Mar 24 p 74
(See also Nonferrous Metals, Form-ing and Shaping; Steel, Forming ond Shaping)

Prices and Production, by H. W. Van Camp*, Jan 6 p 282

Allegheny Ludium Cuts Stainless Extras, Jan 13 p 92 Analysis in the Steel Industry*, Jan 27 p 60

Bethlehem Raises Extras, Feb 24

p 132 British Abolish Steel Industry Sub-sidy; Prices Up 9 Pct, Apr 21 p 125

Carboloy Cuts Die Prices, June 30 p 104

p 104
Clarification Legislation Endorsed,
Jan 27 p 124
Consumers' Index Declines in 61
Cities. Apr 21 p 98
Controversy Spotlichted by Normal Market Trends, Feb 24 p 135
Copper and Zinc Feel Reductions,
May 5 p 184
Delivered. Solution to Problem in
Sight. Feb 17 p 110

Delivered. Solution to Problem in Sight, Feb 17 p 110
Din Sharply, Mine Closures Stiffen Metals Market, May 12 p 144
Electrical Sheets, Feb 24 p 132
Farm Implement Makers Expect Good Year, Fear Rising Costs, Jan 13 p 99
Fastener Makers Boom Merged Into Competitive Market, May 19 p 135
Ferromanganese Up. Max 3 p 140

10 Competitive Market, May 19 p 135
Ferromanganese Up, Mar 3 p 140
F.O.B. Mill, Jan 6 p 168
Freioht Absorption Controversy,
FTC Answers Congressional
Committee, Mar 3 p 148A
Freight Absorption, Court's Decision Expected, Apr 7 p 118
Freight Absorption Legislation,
FTC Against, Jan 13 p 76
French Show Decline, Mar 17 p 135
Galvanized Cut, Apr 28 p 120
Granite City Steel Co. Cuts, Mar 10 p 148

10 p 148
Gray Iron Founders, Price Fixing Charge Returned, June 23 p 140
Great Lakes Reduces Sheet, Strip,

May 5 p 110
Harvester Expects No General
Price Reductions Now, June 9
p 125

p 125 Increase On Trucks, Jan 20 p 111 Iron Age Finished Steel Composite Change, May 12 p 139 Italian Modern Plant, Competitive

Hahan Modern Plant, Competitive Price, Steelmekers Aim, Apr 14 p 130 Kaiser Steel Cuts Reflect Market Softening and Effects of Com-petition, Mar 31 p 96 Lead and Zinc Reductions Fail to Tempt Consumers, Apr 14 p 168

Manganese Prices Up, Mar 24 p 118 Nonferrous Metals*, Jan 6 p 266 Ore Increase Brightens Quebec-Labrodor Outlook, Jan 20 p 114 Pig and Scrap Imports Affect, Jan

Pig and Scrap Imports Affect, Jan 13 p 80 pig Iron Eyed by Purchasing Agents, May 19 p 137 pig Iron Producers Face Decline*, Apr 21 p 119 pig Iron Testing Due After Steel, Coal Negotiations Settled, June 23 p 115 prices and Production*, Jan 6 p 282 Refrigerators Slashed; Competition Blamed, Mar 24 p 130 Sears Reducing, Jan 6 p 307 Serap Convention Discusses*, Jan 27 p 114

27 p 114 Sheffield Steel Cuts Prices, June 23

p 153
Slashed, Cut Output, Conversion
Bloom Fades*, Mar 31 p 113
Steel Companies Unwilling to Start
War, June 30 p 99
Steel Lags in Advance, Mar 3 p 158
Steel Market Competition Strong,
Due for Test, Apr 14 p 121
Steel Scrap Market, New Factors
Change Tone, Jan 13 p 95
Steel, Talk Won't Bring Down*,
June 16 p 139

Change Tone, Jan 13 p 95
Steel, Talk Won't Bring Down*,
June 16 p 139
Steel Users Don't Like FOB,
May 19 p 141
Steel Users to Benefit from Reductions, Apr 21 p 159
Tin Reduction Seen Possible, May 19 p 147
U. S. Steel Export Co. Shows Freight Rise, Jan 20 p 120
U. S. Steel Making Drastic Revisions in Extra Charges, Apr 28 p 123
Washers Reduced, Apr 28 p 120
Wire Industry Faced by Inventory
Liquidation and Price Testing,
June 16 p 141
Zinc Reduction Reflected in Lower
Pipe Quotations, Apr 28 p 133
Zinc Reduction Reflected in Lower
Pipe Quotations, May 12 p 139
Zinc Reduction Reflected in Lower
Pipe Quotations, May 12 p 139
Prices Resing Point and F O R

Prices, Basing Point and F.O.B.: Abolishment Not Unanimous, Feb 24 p 118 Basing Point Battle on Way, Mar

24 p 118
Basing Point Battle on Way, Mar
10 p 166
Decision, Narrow Definition, Feb.
3 p 193
FOB Mill's, Ian 6 p 168
FOB Mill's, Ian 6 p 168
FOB Mill's Elling Not Favored by
FTC, Ian 27 p 132
FOB Selling Probibited By Proposed Bill, Ian 20 p 121
FOB System Criticized, Feb. 3 p 140
Freight Absorption Controversy,
FTC Answers Congressional
Committee, Mar 3 p 148A
Freight Absorption Legislation,
FTC Against, Jan 13 p 76
Freicht Rates Determine Diameter
of Marketing Areas, Jan 20 n 88
O'Mahoney Bill Far Cry From
Basing Point System, June 30
p 95
Pricing Controversy Spotlighted by
Normal Market, Trond, Feb. 24

Pricing Controversy Spotlighted by Normal Market Trend, Feb 24

p 135 Steel Users Don't Like FOB May 19 p 141

Prime Coating Aluminum Sheet, by Clyde St. John*, Jan 13 p 42

Process Control:

Applying Titanium Enamels Direct to Titanum Steels*, Jan 27 p 77 Automatic Arewelding, Significance of Speed*, Mar 10 p 98 Bearings, Friction-Type, Getting the Most Out*. Mar 3 p 96 Bearings, How Link-Belt Produces Ball and Roller*, (2 Parts), June 23 p 74: June 30 p 58 Colorimetric Methods of Analysis, Guide*, Apr 28 p 88 Cylindrical Grinding, Speeds and Feeds to Use*, Mar 3 p 100 Detroit*, Jan 6 p 249 Driving and Controlling A Modern Strip Pickling Line*, Jan 13 p 46

Strip Picking Line Strip Floring Lime Treatment of Waste Pickle Liquor*, Jan 20 p 48 Enameling Auto Window Moldings By Electrostatic Spray*, Feb 10 p 75

Furnace Brazing Aluminum Refrigerator Parts*, May 26 p 62
Heat Abstraction, Determining by Molding Materials*, Apr 21 p 74
Heating Seamless Tubes For Sizing*, Apr 14 p 86
Magnesium Treatment for Nodular Graphite Cast Iron*, Feb 24 p 97
Material Handling Exposition*, Jan 20 p 54
Mechanization Boosts Westinghouse Foundry Capacity*, Jan 13 p 55

house Foundry Capacity*, Jan 13 p 55
Metallurgy and Heat Treatment of Cutting Tools*, (Part II), Jan 13 p 61
Porcelain Enameling At Lustron*, Apr 14 p 67
Practical Applications of Stress Analysis at I-H*, Mar 17 p 76
Prime Coating Aluminum Sheet*, Jan 13 p 42
Production Processes, High Speed Motion Pictures Aid in Analysis*. May 5 p 82
Spray Painting Control System*, May 19 p 96
Steel Castings, Isothermal Heat Treatment*, June 30 p 42
Submerged Arc Skip Welding Ring Gears to Stamped Flywheels*, Jan 27 p 66
Supercharger Bucket Blades, Milling From Bar Stock*, June 23 p 60
Training Tool and Diemaker Ap-

p. 60
Training Tool and Diemaker Apprentices at Talon*, Feb 24 p 72
Two Unusual Material Handling
Systems*, Apr 14 p 76
Valve Tappets, Gaging 125 Per
Minute*, May 26 p 66
Wheeled Fixture Speeds Truck Cab
Assembly*, Jan 20 p 58
(See also Instruments)

Producto Machine Co.: Form and Cutoff Machine*, May 19 p 104

Profits in Scrap, by James Flett*, Mar

Proper Battery Maintenance Cuts In-dustrial Truck Operating Costs, by K. A. Vaughan*, Mar 10 p 118

Protecting Fixtures and Patterns in Open Storage, by Howard N. Smith*, June 30 p 55

Pullmax Co.: Sheet Cutting Machines*, Jan 20 p 72

Pumps: (See Plant Equipment)

Punching: (See Shearing and Punching)

Pyrometer Instrument Co.: Openhearth Optical Pyrometer, Apr 21 p 85

Q

Quality Control: (See Process Control)

Quaker Chemical Products Corp.: Synthetic Cleaner, Mar 17 p 101

Quaker Rubber Corp.: Reflecting Hose, Mar 24 p 95

Queen Stove Works, Inc., Almco Div.: Deburring-Finishing Barrel*, May 19 p 106

Quenching: (See Heat Treating; Steel, Treat-ment)

R

R-S Products Corp.: Dual Valve, June 30 p 69

Rack Engineering Co.: Adjustable Pallet Rack, Mar 24 p

Radio Communication System Cuts Materials Handling Costs 15 Pct, by E. L. Haase*, May 26 p 82

Radiography: (See X-Ray)

Radioisotopes; Metallurgy*, Jan 6 p 216 (See also Atomic Energy; Science and Research)

Railroads: loy Steel Castings, Talgo Train Makes Extensive Use*, June 9 p 58 or Building Gets Boost on West

Car Building Gets Boost on West Coast, Mar 10 p 136 February Freight Car Deliveries, Mar 17 p 126 Freight Car Buying Returns to "Normal" With Bang, June 23 p

"Normal" With Bang, June 23 p 113 Freight Car Cuts, Feb 24 p 132 Freight Car Program Doomed Un-less New Orders Placed, Feb 17 p 129 Freight Rise Authorized by ICC, Jan 6 p 292 Gas Turbine-Electric Locomotive Test Completed, June 16 p 142B Steam Turbine Electric Locomo-tives, Feb 3 p 196 Steel Conservation in Lightweight Freight Cars*, Feb 3 p 100 (See also Transportation)

Rail Steel Bar Assn.: Competition Discussed*, May 19 p 149

Ramtite Co.: Plastic Refractory, June 30 p 69

Rannells, Karl: annells, Karl: Government Still Owns \$150 Million of Steel Facilites, Feb 10 p 115 Natural Gas Industry Secks Steel Demand Break, Mar 17 p 139

Ransome Machinery Co.: Work Positioner, Jan 27 p 81

Rapids Standard Co.: Platform Truck, Jan 13 p 69

eading Chain & Block Corp.: Hoist Limit Stop, Jan 13 p 66

Redmond Co.: Motors*, Jan 20 p 74

Reed Engneering Co.: Plate Bending Rolls*, Feb 10 p 85

eed Roller Bit Co.: Reversible Screw Driver*, June 9 p 72

Refractories:
Carbon Bricks, National Carbon
Co., Inc., June 2 p 86
Intermittent Oxygen Enrichment
of the Curola Blast*, May 12 p

Plastic Refractory, Ramtite Co.

Plastic Ketractory, Kambrie June 30 p 69 Steelmaking Studied by Ceramics Society, June 9 p 56 Vapor-Phase Deposition of Refrac-tory Metals*, June 16 p 98

Reinhardt, R. T.: Western Steel*, Jan 6 p 259

Reliance Electric & Engineering Co.: Edge Control, Apr 14 p 90

Republic Steel Corp.:

Basic Steelmaking Taught in Experiment. May 26 p 119
Buys Into Liberia Mining Co., Mar
17 p 141 Continued Steel Demand Expected,

Apr 14 p 152 Electric-Welded Pipe Mill. Feb 3 n 168 Reports Record Sales, Feb 17 p 134

Research: (See Science and Research)

Research, by T. S. Blair*, Jan 6 p 241

Resins: (See Plastics)

Resistance Welders Service Co.: Spot Welder Arm Adjuster*, Mar 31 p 82

Rex Welder & Engineering Co.: Flash-Butt Welder*, Feb 3 p

Rice Pump & Machine Co.: Profile Grinding Machine p 105

Richards, John T.: How to Heat Treat Berryllium-Copper*, Feb 24 p 78

Richmont, Inc.: Torque Analyzer*, May 5 p 102 Torque Bar, Jan 20 p 74

Rick, T; T.: A Practical Method for Determining Heat Abstraction by Materials*, Apr 21 p 74 Molding

Rimat Machine Tool Co.: Improved Microadapter*, Mar 31 p 83

Roberts, George A. and Arthur H. Grobe: Prealloyed Steel Powders*, Mar 31 p 78

Boring Bar, June 23 p 83

Rockwell, W. S., Co.: Chromium Plating Machine*, May 26 p 85

Rodgers Hydraulic, Inc.: Shop Presses*, June 9 p 70

Roebling's Sons, John A., Co. Wire Filter Cloth, June

Rogers, Samuel C., & Co.; Hydraulic Knife Grinder, Feb 17 p 100

Roll, K. H. and R. L. Ziegfeld: Powder Metallurgy, No Panacea*, Mar 24 p 68

Rolled Thread Die Co.: Thread Roller*, Feb 3 p 126

Poller Riddle Corp.: Sand Riddle*, Jan 27 p 80

Rolling Mills: (See Steel, Production)

Romec Pump Co.: Hand Pump, Apr 14 p 92

Rosenblatt, Don: Isothermal Heat Treatment Of Large Steel Castings*, June 30

Ross Operating Valve Co.: Quick Exhaust Valve, Apr 28 p 92

Rotary Electric Steel Co.: Expansion Completion at Cost of \$5 Million, June 2 p 171

Rottersman, H., E. V. Crane and S. Buttaglia: Triple Surface Drawing and Ironing Abumi-num*, Mar 10 p 106

Roval Oak Tool & Machine Co.: Chip Breaker Grinding Fixture*. Chip Breaker Grinding Fixture*, Feb 3 p 128 Grinding Attachement*, Mar 17 p 100

Russia: U. S. To Prove Can Do Without Manganese, Mar 10 p 151

Rust: (See Corrosion)

Ruthman Machinery Co.: Gusher Pumps*, Feb 24 p 103

Ryman Engineering Co.: Roll Grinders*, Apr 14 p 89

S

Safety Clothin & Equipment Co.: Pants Guard, June 9 p 73

Safety Equipment (See Plant Equipment)

Safwav Steel Products, Inc.: Rolling Maintenance Tower*, June 30 p 68

Sage Equipment Co.: Apron and Slat Conveyers*, June

Gravity Roller Conveyers, Mar 24 ortable Power Boosters, Jan 13

John, Clyde: rime Coating Aluminum Sheet*, Jan 13 p 42

Sandaire Mfg. Co.: Small Sandblaster*. June 23 p 86

Saws and Blades See Tools, Cutting)

Saylor, W. A., John F. Drake and Theodore G. Kennard; Control of Cupola Stack Emis-sions*, Apr 7 p 88

Schafer, Bruce and Paul R. Hesse: Bronze Foundry Realizes Savings by Modernizing Melting Fur-naces*, Feb 3 p 122

Scherr, George Co.:
Gear Gage*, Apr 14 p 91
Measuring Machine*, May 5 p 104
Thread Generating Machine*, Jan 20 p 72

Schilling, F. V. and Fred B. Mead: Shift to AC Welders Saves Power*, May 5 p 99

hmidt, A. O.: Hot Milling High Strength Alloys*, Apr 28 p 67 Schmidt.

Schmidt, Warren: Hard Chrome Plating Milling Ma-chine Quills*, June 16 p 96

Schori Process Div.; Flame Spray Pistol*, Feb 24 p 104

Schroeder, Charles S.: When Can Industrial Power Trucks Go Upstairs?*, May 5 p 94

Schrozder, E. E. Automatic Transfer Presses In-crease Stamping Output*, June

Schwitzer-Cummins Co.: Material Handling Truck, Feb 24 p 104

Sciaky Bros., Inc.: Wire Welder*, Feb 3 p 125

Science and Research:
Atom Smasher Parts for Carnegie
Institute*, Mar 24 p 129
Retatrons Shipped For Research,

Betatrons Shipped For Research, Feb 3 p 191
GM Technical Research Center Plans Crystallized, May 26 p 92
Radioisotopes, Bibliography of Industrial Uses, June 9 p 60
Research For New Mineral Sources Aided by Marshall Plan Funds, Mar 3 p 151
Trapped Oil Reserves May Be Increased, June 23 p 130
University of Chicago Seeks Knowledge In Little Known Fields, Jan 6 p 354
(See also Atomic Energy)

Scott, W. R., & Son: Form-Bar Bender*, Feb 3 p 125

crap:
Complacency Warned; Less Imports; Export Barrier End Urged, Mar 17 p 143
Composite Drops, Feb 10 p 112
Convention Discusses Prices and Quality*, Jan 27 p 114
Drive Termination; Supply Situation Improves, Apr 21 p 132
Drive Underway, Feb 10 p 122
European Collection Urged, Leaner Ores Use, Mar 17 p 137
German Imported, Feb 3 p 164
German Outlook Still Bleak, Mar 10 p 157
German Shipments Rise in January, Feb 24 p 138
Germans Use Pipe for New Industry*, Mar 24 p 131
Graph Lure-Sugvests
Game (Table), May 26 p 125
Heavy Melting Grades Skip; Market Weak, Feb 10 p 151
Inventories Not Adequate, Feb 3 p 178 Scrap:

Japanese Potential Estimate, As 14 p 132 Japanese Potential Probed, Jan J 134 of Interest Further Weak

Japanese Potential Probed, Jan 3
Japanese Potential Probed, Jan 3
Lack of Interest Further Weakes
Market, June 2 p 161
Market, Action ABC to Sea
People, Jan 13 p 96
Market Reflects Weak Ontimies
on Business Conditions, June 1
p 119
Market Stagnant, No Signs of
Renewed Activity, Apr 14 p 13
Marshall Island, Last Amount Sold
June 16 p 135
Metal Baling Presses, Dompos
Bros.* Apr 28 p 93
Powder Cutting Adopted in Prearation, Mar 17 p 168
Price Slip Not Reflected in Primes
Metals, Mar 10 p 182
Prices Down Sharply; Dull Maket, Mar 31 p 151
Prices Drop But Taper Graduals
Feb 24 p 169
Prices Drop But Taper Graduals
Feb 24 p 169
Prices Slip Further, Feb 1 n 28
Prices Slip Further, Tempo Slow,
Apr 21 p 165
Prices Slip; Trading Remains Def
Mar 24 p 143
Profits*, Mar 17 p 86
Railroads Market 15 Pet Cos
sumed, Jan 13 n 78
Resumes Downward Trend, Mar
p 185
Shibbreaking Firms Study Exter
Potential, Apr 21 p 127

Hori

Resumes Downward Trend, Mar p 185
Shinbreaking Firms Study Exter Potential, Apr 21 p 127
Steel Market, New Factors Chan-Tone, Jan 13 p 95
Stockpiline, Committee Fails Recommend, Apr 28 p 131
Trend Down; Prices Lower; Market Weak, Apr 14 p 171
Weakness in Grades Continues, J. 27 p 143
Western Price Decline Because

Western Price Decline Because Large Stocks, Apr 7 p 120

Screw Machiness:
Automatic Serew Machine, JohnAutomatic Wachine Co.* Ed
17 p 99
Expect Slight Decrease in 190
Mar 10 p 159
Hand Serew Machine, Chample
Motors, Inc.* June 16 p 101
Improved Serew Machine, Cleand Automatic Machine Co.

Improved Screw Machine, Clevland Automatic Machine C. Apr 21 p. 86
Screw Machine Drill, Super ToCo., Mar 31 p. 82
Stock Insert, Sheffer Collet Co.
Apr 21 p. 87
Thread Generating Machine, George
Scherr Co. 4, Ian 20 p. 72
Transition Problems In Product
The Unified Screw Thread 4, Fe

24 p 66

Screws, Nuts, Bolts (See Fasteners)

Scribener, Arthur, Ltd.: End Form Grinding Machine*, M 10 p 102

Scully-Jones & Co.: Automatic Recessing Tool*, Apr. p. 87 Core Drill Cutter*, June 30 p 6

Selas Corp. of America: Air-Gas Conditioner*, May 26 p Aluminum Brazing*, May 26 p Brazing Machine*, May 12 p Special Brazing Machine, Apr p 89 Wire Tinning*, June 30 p 66

Seneca Falls Machine Co.: Center Drive Lathe, Mar 31 Multiple Turning Lathe*, J p 69

Service Caster & Truck Corp. Hydraulic Lifter*. Jan 13

Service Machine Co.: Punch Press*, Apr 7 p 105

Severance Tool Industries: Solid Carbide Cutters, Mar 24 p

Shapers (See Planing and Shaping Ma (See Planchines)

Sile

Shaping Geats (See Gears: Machining)

sharon Steel Corp.: Industrial Peace Cited, May 19 p 145

Shaving (See Gears: Machining)

l, Jan J

V caken

Distins Tun-

Sions of

in Pres

Prim

off M

raduali

y: 8a

t Co

Mar

Exp

Chan Pails 31 r: M

ues, J

10:

ample 101

Cles e C

er To

et C

Georg

* M

Apr.

0 p 6

26 p

66

67

4 19 0

Ma-

Shaw, John D., G. J. Comstock, C. L. Clark and W. V. Knopp: Powder Metallurgy*, Mar 24 p 72 o Sens

Shearcut Tool Co.: Thread Cutting Broach*, Mar 31 p

Shearing and Punching: Blade Shear, DoAll Co.*, May 26 Forming Stainless Steels*, Parts), Mar 31 p 58; Apr 7

p 93 High Speed Punch, Black & Web-ster, Inc.*, Feb 17 p 101 Horizontal Multiple Press, Beatty Machine & Mig. Co.*, Feb 17

Metal Shear, Acme Equipment Co.*, May 19 p 103 Seroll Shear, Lima - Hamilton

Co.*, May 19 p 103
Seroll Shear, Lima - Hamilton
Corp.*, May 26 p 85
Shearing Attachment, Cincinnati
Shaper Co.*, Aor 21 p 87
Sheet Cutting Machine, Pullmax
Co.*, Jan 20 p 72
Shitting Shear, Beverly Shear Mfg.
Co., Feb 24 p 105
Square Hole Punch, Pioneer Broach
Co.*, Feb 10 p 86
Squaring Shear, Wysong & Miles
Co.*, Mar 3 p 112
Steel Squaring Shears, Columbia
M ac h in ery & Engineering
Corp.*, Mar 10 p 121
(See also Presswork)

eet and Strip (See Plate, Sheet, Strip)

heffer Collet Co.: New Grind for Collets, May 12 p tock Insert, Apr 21 p 87

neffield Corp.: Automatic Gaging Machine*, Feb Automatic Gaging Machine*, Feb. 17 p 100 Cylinder Block Gaging Machine*, Mar 31 p 83 Gaging Spindle*, June 23 p 85 Spline Burring Machine*, Feb. 10 p 83

heffield Steel Corp. : urchases Government Furnace and Oven, Jan 13 p 92

eridan, S. A., John A. Halgren and Bernard Goodman: Practical Applications of Stress Analysis at I-H*, Mar 17 p 76

rman Industrial Electronics Co.:

ift to AC Welders Saves Power by Fred B. Mead and F. V. Schill ing*, May 5 p 99

hipbuilding: Gets Lift, Feb 3 p 182 Mobile's Industrial Growth*, Feb 10 p 120 Slowdown Hits Center, May 12 p

163
U. S. Approaches Crises*, Feb 10
p 117
West Coast Aided by Conversion
Contracts, Mar 24 p 108
West Coast Revival Agitated by
Organized Groups, Feb 24 p 118
Western Poor Prospect for Steel
Consumption Without War, May

Vestern Revival Doubtful, Feb 24s p 116

hipping (See Transportation)

ificance of Speed in Automatic Welding, by John H. Hruska*, Mar 10 p 98

Signode Steel Strapping Co.: Power Strapping Machines*, Feb. 17 p. 102

Silent Hoist & Crane Co., Inc.: Mobile Craue*, Jan 13 p 68

Silver (Sec Nonferrous Metals)

Silverman, Louis: Guide to Colorimetric Methods of Analysis*, Apr 28 p 88

Simonds Machine Co.: Foot Switch, June 9 p 73

Sintered Carbides
(See Powdered Metals: Tools)

Sintering:
Ford Produces Parts From Metal
Powders*, Mar 24 p 76
Fused Ore for the Openhearth*,
Apr 7 p 82
Physical Properties of Reduced
Iron Powder Plus Graphite and
Copper*, Mar 24 p 81
Taconite Utilization. Approach*,
Apr 14 p 70

Apr 14 p 70 (See also Furnaces)

Skarnes Engineering & Supply Co.: Crate Lifting Unit*, Mar 31 p 84

Slag (See Steel, Production)

Smalley, Oliver: odular Iron, Notes on History, May 19 p 100

Smelting: AIME Annual Meeting*, Mar 3 p Labrador Iron Ore Output, Pro-posed Smelting Plan, Apr 14 p 140 Tin Legislation Considered, May 5 p 178 (See also Furnaces)

Smilan Tool Co.: Tri-Spindle Portable Tool*, June 2 p 84

Smit, J. K., & Sons: Diamond Tool Holder, June 2 p 87

Smith, A., & Sons: Welding Covers, May 12 p 105

Smith, H. L.: Getting the Most Out of Friction-Type Bearings*, Mar 3 p 96

Smith, Howard N.: Protecting Fixtures and Patterns in Open Storage*, June 30 p 55

Smith, Stanley G.: Two Unusual Material Handling Systems*, Apr 14 p 76

Smoke, S. D.:

Materials Handling Exposition*,
Jan 13 p 102-D

Steelmen Hope Government O.K.'s
Accelerated Depreciation, Feb 3
p 157
U. S. Shipbuilding Approach p 157 U. S. Shipbuilding Approaches Crises*, Feb 10 p 117 World Steel*, Jan 6 p 191

Snyder Tool & Engineering Co.: Boring Machine*, Jan 27 p 79 Drilling-Tapping Machine*, Mar 10 p 121 Machining Axles at Ford*, Apr 28 Special Purpose Machine*, Mar 31 p 81

Soaking Pits (See Furnaces, Soaking Pit; Steel, Production)

Soldering:
Cast Iron Filler, Eutectic Welding
Alloys Corp., June 18 p 102
Heavy Duty Soldering Iron, Hexacon Electric Co., Mar 10 p 123
Machine-Cast Bar Solders, Federa
ted Metals Div., May 26 p 89
(See also Brazing)

South Bend Lathe Works: Ball Bearing Live Center, Feb 24 p 105 p 105 Precision Bench Shaper, Apr 7 p 105 Precision Level, May 26 p 87 Precision Turret Lathe*, June 16 Swing Lathes, Feb 10 p 84

Spann, L. R., Milton Tilley, W. M. Albrecht and J. H Lansing: Machining Malleable Iron*, June 2

Spear, R. E. and L. J. Ebert: Heat Treatment of Aluminum Casting Alloys*, (2 Parts), Mar 3 p. 88; Mar 10 p. 110

Aluminum Anti Rust Paint, May 5 p 105 Speco, Inc.

(See Instruments, Testing and Inspection) Spectrograph

Speeds and Feeds To Use in Cylindri cal Grinding, by E. W. Wolff* Mar 3 p 100

Speed Selector, Inc.: Variable Speed Control Unit, June 9 p 72

Spencer, Lester F.: Cold Forming Stainless Steels*, (2 Parts), Mar 31 p 58; Apr 7 p 93

Spice, S. M.: Submerged Arc Skip Welding Ring Gears to Stamped Flywheels*, Jan 27 p 66

Spiegle (See Steel, Production)

Spinning (See Nonierrous Metals, Forming and Shaping; Steel, Forming and Shaping)

Sponge Iron: Commercial Production*, June 2 p 67 (See also Metals, Powdered)

Spraying (See Cleaning and Finishing)

Spring, W. S.: Deltamax—A New Magnetic Core Material*, Mar 31 p 70

Springfield Machine Tool Co.: Tool Room Lathe*, June 23

Square D Co.: Control Transformers*, Feb 24 p Pneumatic Timers, Apr. 14 p Spot Welder Control, Jan 27 p 79

Spot Welder Control, Jan 27 p. 79

Stainless Steels:
Cast Ferrous Materials for SubzeroService* June 9 p. 46.
Casting Centrifugally In Permanent Metal Molds*, Jan 27 p. 56.
Coal Conveyer Belts Tests Scheduled, June 16 p. 133
Cold Formin**, (2 Perts), Mar 31
n. 58; Apr. 7 n. 93
Machined Stainless Steel Parts,
Carbentie Steel Co.*, Apr. 21 p. 88
Metallurgs*, Jan 6 p. 216
Mill Equipped to Process Wire
Products*, June 30 p. 105.
Power Plant Operates at
1050°F*, June 30 p. 64
Stainless Cl-d Steel Alan Wood
Co., Mar 17 p. 103
Weaving Sercening*, June 9 p. 68
Stallton Chemical Corp.;

Stallton Chemical Corp.: Fire-Retardant Paint, Mar 17 p 103

Automatic Transfer Presses Increase Output*, June 2 p 60 (See also Presswork) Cold Forming Stainless Steels*, (2 Parts), Mar 31 p 58; Anr 7 n 93 Industry Facine Severe Testin Period, May 5 p 145 (See also Presswork)

Standard Gage Co.: Plug Gages*, Jan 20 p 74

tandards: Arewelding Electrode Charts, Feb. Colorimetric Methods of Analysis,

Colorimetric Methods of Analysis, Gaide*, Apr 28 p. 88
Consumer Cooperation During Thread Changeover Asked, May 26 p. 136
Detroit*, Jan 6 p. 249
Ge ar Standardization, AGMA Urges, June 16 p. 93
Hydraulic, Benefiting Metalworking Industry*, Apr 7 p. 100
Metal Powder, Jan 20 p. 53

Production Processes, High Speed Motion Pictures Aid in Analy-sis*, May 5 p 82 Sheets, Rejects Hit By Consumer Selectivity, June 9 p 101 Spray Painting Control System*, May 19 p 96 Training Tool and Diemaker Ap-prentices at Talon*, Feb 24 p 72 Transition Problems In Producing The Unified Serew Thread*, Feb 24 p 66 24 p 66

Stanley Electric Tools:
Electric Drill*, June 2 p 86
General Purpose Electric Drill,
Mar 10 p 121

Staple Engineering Co.: Vertical Honing Machine*, Mar 3 p 112

Sta-Warm Electric Co.: Pouring Heaters*, Apr 28 p 93

Stearns Magnetic Mfg. Co.: Permanent Magnetic Pulley*, Mar Permanent 10 p 124

Steel and the Public, by T. C. Camp bell*, Jan 6 p 178

Steel Capacity, by G. F. Sullivan* Jan 6 p 198

Steel City Testing Machines, Inc.: Ductility Testing Machine*, Mar 17 p 100

l Conservation in Lightweight Freight Cars, by Marvin Bar Ioon*, Feb 3 p 100

Steel: Boron, Production Use, June 23 p. 82
Boron Titanium for Moderate
Temperatures*, June 16 p 90
Free Machining Steel, Carnegie
Illinois Steel Corp., June 2 p 83
Nitrogen in Steel*, June 30 p 52
(See also Stainless Steel)

Steel Industry:
Aircraft Industry Eyed as Large
User, June 30 p. 80
AISI Awards Fairless Highest
Honor, June 2 p. 117
Allegheny County Enacts Law to
Control Smoke and Fly Ash;
May 26 p. 117
Analysis of Prices, Wages and
Costs*, Jan 27 p. 60
Austrian Continuous Billet Mill.
Iron Ore Minime Funds Author
ized, June 9 p. 112
Auto Industry No. 1 Steel User;
Oil, Gas Show Gains, June 2 p.
146
Basing Point System, O'Mahoney

146
Basing Point System, O'Mahoney
Bill Far Crv From, Ione 30 p 95
British Abolish Subsidy: Prices
Up 9 Pet, Apr 21 p 125
British Federation Anticipates
Steel Supply Easing, June 2 p

Business Dovn 25 Pct from Fourth Querter 1948, Apr 28 p 129

129
Canadian Company Orders New
Pipe Line and Equipment, May
19 p 140
Canadian Ore Search Moves North
of Quebec-Laborador, Feb 3 p

Canadian Steel Items Tight, Jan 27 Capacity Clamor to Continue, Jan

p 126
Cmacity Clamer to Continue, Jan
20 p 82
Capacity, Pct Increases In, 1948
vs 1938 (Table), Mar 3 p 160
Construction Awards, Jan 13 p
104 ; Jun 20 p 112; Jan 27 p 124;
Feb 3 p 170; Feb 10 p 128; Feb
17 p 136; Feb 24 p 146; Mar 37
p 155; Mar 10 p 166; Mar 17 p
144; Mar 24 p 132; Mar 31 p
124; Apr 7 p 150; Apr 14 p
133; Apr 21 p 127; Apr 28 p
135; May 5 p 146; May 12 p
171; May 19 p 148; May 26 p
128; June 2 p 126; June 9 p
144; Iune 16 p 143; June 23 p
121; June 30 p 108
Construction Competition Returns,
June 2 p 121
Company Earnings (Table), Feb
3 p 159
Comparative Tool Steel Brands
(Table), Apr 20

-

3 p 159 omparative Tool Steel Brands (Table), Apr 28 p 85

Competition Stalks Halls of Steel

Competition Stalks Halls of Steel Warehouse Assn. Convention, May 26 p 122
Competition Strong; Base Prices Due for Test, Apr 14 p 121
Concepcion, Chile Plant Receives Credit, Jan 20 p 115
Consumers Slash Prices, Cut Output; Conversion Bloom Fades*, Mar 31 p 113
Consumption In 1948 (Table), May 26 p 72A
Continued Demand Expected, Apr 14 p 151

14 p 151
Control of Cupola Stack Emissions*, Apr 7 p 88
Conversion Ingot Demand Slump
Hits Coast Producers, Mar 3 p

Hits Coast Producers, Mar 3 p 126
Costs Rise; Prices Drop If Sales
Dip Continues, Fairless Warning, May 26 p 120
Crosses Fingers and Guesses at Future Prospects, Mar 3 p 143
Cruicible's New Spaulding Works*,
Mar 10 p 165
Crucible Ultra Modern Mill
Opened*, May 19 p 90
Current Business Off, Long Term
Good, Apr 28 p 131
Danes Study U. S. Methods*, Mar
10 p 174
Demand Reflected in Industrial
Growth of South, Feb 3 p 162
Distribution Marchaning, Feb 17 p
140

140 Distribution by Consuming Indus-tries (1939-48) (Table), Feb 24 144

Distribution, House Small Business Committee Studies, June 9 p. 80

Domestic Pig Iron Buyers Market Returns, Mar 31 p 125 Earnings Rose in 1948, Apr 7 p 146

Eastern Pig Iron Producers Piling More Than Shipping, June 2 p 122

Economy in Production Metal Show's Main Theme, June 23 p 142

142
European Scrap Collection Urged,
Leaner Ores Use, Mar 17 p 137
Expansion Cost Too Much; Price
Too Low, Mar 31 p 136
Exports Drop, Feb 3 p 174
Export Prospects for Balance of
Year Good, June 2 p 115
Farm Equipment Buying Decline
Seen Threat, May 13 p 141
Fastener Makers Boom Merged
Into Competitive Market, May
19 p 135
Financial Analysis, 1948-47

19 p 135 Financial Analysis, 1948-47 (Table), Apr 7 p 146A Finished Steel Leads Industrial European Recovery, May 26 p

FOB, Users Don't Like, May 19

Foreign Manganese Ore, Import and Consumption (Table), Mar 10 p 152

10 p 152 Foreign Offers Flood Atlantic Coast Warehouses, Feb 17 p 131 Forging Industry Feels Less De-mand From Cost Conscious Buy-ers, May 12 p 133

Founders Squeezed Between Firm Price and Demand Falling, June 16 p 142D

4000 Separate Jobs, June 16 p 140 Freight Absorption Controversy, FTC Answers Congressional Committee, Mar 3 p 148A Freight Absorption, Federal Court Ruling Hamstrings, Mar 31 p

Freight Rates Determine Diameter of Marketing Areas, Jan 20 p 88

eter of Marketing Areas, Jan 20 p 88
Freight Rates Determining Diameter of Western Marketing Areas (Table), Jan 20 p 88
FTC Expects To Begin Absorbing Freight, May 5 p 112
Geneva Steel, No Production Cuts, June 9 p 84
Germans Told Scrap Outlook Still Bleak, Mar 10 p 157
Government Owns \$150 Million Steel Facilities, Feb 10 p 115
Graph Lure—Suggests Guessing Game (Table), May 26 p 125
Hand Mills Face Foreclosure of War-Induced Lease on Life*, Apr 21 p 117

High Quality Easier, Feb 10 p 119 Hopes Accelerated Depreciation O.K.'d by Government, Feb 3

p 157
Hydraulic Standards Benefit Metalworking Industry*, Apr 7 p 100
Industrial Reserve Plants, 236
Listed, Apr 7 p 139
Ingot Production Expansion Not
Being Made Public, Feb 10 p 98
Integrated Steel Mill in Southwest,
Line 16 p 142C

Integrated Steel Mill in Southwest, June 16 p 142C
Inventories, Warehousemen See Improvement, B u t Drooping Sales Volume, Apr 14 p 127
Iron Age Finished Steel Composite Price Change, May 12 p 139
Iron and Steel Exports for March Highest During First Quarter, June 2 p 134

Iron and Steel Exports for March
Highest During First Quarter,
June 2 p 134
Iron Ore*, Jan 6 p 229
Iron Ore, High Peacetime Movement In 1949*, Mar 31 p 121
Iron, Steel Imports Decline; Scrap
Material Increased, June 2 p 141
Italian Modern Plant, Competitive
Prices, Aim, Apr 14 p 130
Japanese Scrap Potential Estimate,
Apr 14 p 132
K-F, Republic 5-Year Pact, Feb
24 p 145
Kaiser Freight Allowances Makes
Prices Competitive in Largest
Market Areas, Apr 28 p 106
Kaiser Price Cuts Reflect Market
Softening and Effects of Competition, Mar 31 p 96
Kevstone Steel & Wire Modernizes
Rod Mill*, Mar 3 p 109
Lake Erie and Ohio River Terminal Belt Conveyer*, Feb 10
p 126
Liberia Mining Co. Ltd. Receives

minal Belt Conveyer*, Feb 10
p 126
Liberia Mining Co., Ltd. Receives
Bank Credit, May 12 p 135
Liberia Openhearth Grade Iron
Ore, Feb 24 p 143
Linepipe Supply Remaining Tight
for One Year*, May 12 p 137
Lone Star Steel Co. Asks RFC
Loan. Jan 27 p 120
Lone Star Steel Requests RFC
Loan. Feb 17 p 158
Lone Star Steel's Expansion Hot
Subject in Texas, May 5 p 136
March Iron, Steel Imports Drop;
Scrap Up 35,000 Tons, June 16
p 152
Market Seen Differently by Lead-

p 152
Market Seen Differently by Leaders. Feb 3 p 159
Metal Industries Profits Increase in 1948, June 2 p 141
Metal Powder Meeting Set for Chicago*, Mar 24 p 75
Midwestern Business Shrinks, Feb 3 p 167

3 p 167 Nationalization Threat, Jan 27 p

111 Natural Gas Industry Seeks Steel Demand Break, Mar 17 p 139 New Coal Washing Plant Feeds Republic Furnaces*, Mar 17 p 142

England Steel Plant Hopes.

New England Steel Plant Hopes, Jan 27 p 109 New Factors Change Scrap Mar-ket, Jan 13 p 95 90 Pct Operating Rate for 1949 Predicted, May 19 p 164 Nodular Graphite Gray Iron De-velopments Progress Rapidly. Apr 7 p 149 Nodular Graphite Irons, Apr 28 p 82

OIT Removes Export Quotas on Iron, Steel Products, Apr 21 p

Peacetime Achievement Reviewed, Jan 6 p 307 Pig and Scrap Imports Affect Price, Jan 13 p 80

Price, Jan 13 p 80
Pir Iron December 1948 Output
Sets Record, Feb 10 p 139
Pig Iron Prices Eyed by Purchasing Agents, May 19 p 137
Pig Iron Price Testing Due After
Steel, Coal Negotiations Settled,
June 23 p 115

June 23 p 115
Pig Iron Producers Face Decline
in Demand, Prices*, Apr 21 p

Iron, Record Year Seen, Mar 10 p 161
Pittsburgh Furnaces Down Quality Steel Orders Lag. Mar 31

1ty Steel Orders Law, Mar p. 115
Pittsburgh, More Steel Consumers,
Mar 10 p. 153
Prices, Talk Won't Bring Down*,
June 16 p. 139

Price War, Unwilling To Start,

June 30 p 99 Profits First Quarter 70 Pct Above Same Period of 1948, May 5 p 139

Same Period of 1948, May 5 p
139
Profits in Scrap*, Mar 17 p 86
Profits 1.6 Pct, Not 8.7 Pct, Feb
17 p 146
Proposals of White House Face
Fight in Congress, Jan 13 p 101
Processing Variables Studied by
Openhearth And Blast Furnace
Operators*, Apr 28 p 78
Caota Restrictions, 22 I t e m s
Lifted, June 2 p 116
Radiant Heating Market Eyed*,
Mar 24 p 125
Rail Bar Men Discuss Competition*, May 19 p 149
Record Output Continues; Supply
and Demand Balancing, May 5 p 160

and Demand Balancing, May 5 p 160
Refractories Studied by Ceramics Society, June 9 p 56
Republic Steel Buys Into Liberia Mining Co., Mar 17 p 141
Republic Teaches Basic Steelmaking in Experiment, May 26 p 119
Reversing Hot Strip Mill, Evolution*, May 19 p 86
Sale of Surplus Facilities (Table), Feb 10 p 116
Scrap Complacency Warned; Less Imports; Export Barrier End

Scrap Complacency Warned; Less Imports: Export Barrier End Urred, Mar 17 p 143 Scrap Convention Discusses Prices and Quality*, Jan 27 p 114 Scrap Market Reflects Weak Op-timism on Business Conditions, June 2 p 119 Scrap Market Stagnant, No Signs of Renewed Activity, Apr 14 p 123

123

Seamless Tube Mill Planned, Jan 27 p 123
Sharon Steel Corp. Industrial Peace Cited, May 19 p 145
Sheet Metal Consumers Against Farm Grain Bin Allocations, Feb 17 p 142
Sheets, Rejects Hit By Consumer Selectivity, June 9 p 101
Shipments by Market Classifications (Table), June 2 p 146
Shipments of Pinished Products 1940 and 1947 (Table), Feb 17 p 140
Shipments of Steel Products, No-Shipments of Steel Products, No-Shipments of Steel Products, No-

n 140
Shipments of Steel Products, November, Jan 20 p 102; December, Feb 17 n 137; January, Mar 24 n 128; February, Apr 14 p 127; March, May 12 p 138; April, June 9 n 110
Shortage End Does Not Silence Government Critics, Apr 21 p 96
Shuffle Across Pacific, Feb 17 p 114

114
60-80 Million Tons Ingots Annually Sound Peacetime Rate,
May 26 p 126
Smelting Plan for Proposed Labrador Ore Output, Apr 14 p 140
Social Security Fight, Philip Murray Ready, Mar 17 p 129
Stamping Industry Facing Severe Testing Period, May 5 p 145
Steel and the Public*, Jan 6 p 178
Steel Capacity*, Jan 6 p 198
Steel Expansion Provides 50,000
Jobs. May 13 p 158

Steel Expansion Provides 50,000 Jobs, May 13 p 158 Steel Ingots and Steel for Castines, Production, December, Jan 20 p 110; January, Feb 17 p 134; February, Mar 17 p 138; March, Apr 21 p 122; April, May 19 p 142; May, June 16 p 142A Steel Shipping Dangerous Practices To Be Eliminated, June 30 p 100 Strip Easing in Midwest, Apr 21 p

Strip Easing in Midwest, Apr 21 p

114
Surplus Facilities Under Lease (Table), Feb 10 p 116
Taconite Utilization, Approach*,

(Table), Feb 10 p 116
Taconite Utilization, Approach*,
Apr 14 p 70
Texas Industrial Expansion Leveling Off, Apr 7 p 137
Tower Warns Still Target*, June
2 p 77
Turbo-Hearth*, Apr 21 p 63
U. S. and Canadian Ore Consumption Hits Peacetime Peak, Apr
28 p 127

28 p 127 S. Steel Making Drastic Revisions in Extra Charges, Apr 28

p 123 S. To Prove Can Do Without Russian Manganese, Mar 10 p

Venezuelan Ore Development En counter Transportation Ob-stacle*, Mar 3 p 149 Venezuelan Steel Mill, First Sched-uled for Operation, Jan 13 p 102-C

Dry Pic Facil

February Re

Gary zat Gern

Gern lio Good

an Gove St Gra Ga

Han W A

Hig Hol Inge

Ingo

Jan Jet ii Ke

K-I K-I

La t

Ma

Volta Redonda Chief Coming, Feb. 3 p 166 Voluntary Allocations Extension
Won't Require More Steel, Feb.
24 p 137

Weakness In Autos, Jan 20 p 10 Western Metal Congress, Apr 7 87

Western Steel*, Jan 6 p 259
Western Steel Plants Operating at
Capacity, June 23 p 144
Western Tonnages of Finished
Rolled Products Presented, May
5 p 116
Westinghouse Gives Details on Its

Westinghouse Gives Details on its
Conversion Costs, Mar 10 p 164
Wire Industry Faced by Inventory
Liquidation and Price Testing,
June 16 p 141
World Steel*, Jan 6 p 191
(See also Labor; Management;
Prices) (See also Prices)

Steel, Forming and Shaping

Cold Forming Stainless Steels*, Parts), Mar 31 p 58; Apr 7 p Lock Forming Machine, Roy Flagler Mfg. Co., Mar 10 p 1 100 Valve Tappets A Minute*, F

3 p 110
Powder Metallurgy*, Mar 24 p 72
Powder Metallurgy, No Panacea*,
Mar 24 p 68
TV Parts Made by Powder Metallurgy*, Mar 24 p 74

Steel, Consumption:
Auto Industry No. 1 User; Oil,
Gas Show Gains, June 2 p 146
1948 Consumption (Table), May
26 p 72A
Shipments by Market Classifications (Table), June 2 p 146

Steel, Metallurgy: (See Metallurgy)

Steel. Production: Alloy Steel Business Down 25 Pet from Fourth Quarter 1948, Apr

from Fourth Quarter 1948, Apr 28 p 129
Aluminum Rolling Mills Bought by Swiss Firm, May 12 p 142
Blast Furnace Capacity and Production, November, Jan 6 p 309; December, Feb 10 p 124; January, Mar 10 p 158; February, Mar 31 p 118; March, May 5 p 135; April, June 2 p 121; May, June 30 p 102
Blast Furnace, Earthquake-Proof*, Mar 10 p 120
British Federation Anticipates Steel Supply Easing, June 2 p 124

Canadian Ingot and Casting Production Up, Apr 21 p 126
Canadian Output Increases in Primary Shapes, Mar 31 p 120
Canadian Shipments Rise, Apr 28

p 134 p 134 Canadian Steel Items Tight, Jan 27 p 126 Canadian Steel Operations Con-tinued Capacity Expected, May

tinued Capacity Express.

12 p 128
Canadian, to Set All Time Record,
Jan 6 p 364
Capacity, Pct Increases In, 1948
vs 1938 (Table), March 3 p 160
Capacity Set At 96 Million Tons
As Of Jan 1, 1949, Jan 13 p 92
Consumption In 1948 (Table),

As Of Jan 1, 1949, Jan 13 p 92 Consumption In 1948 (Table), May 26 p 72A Crucible's New Spaulding Works*, Mar 10 p 165 Crucible Ultra Modern Mill Opened*, May 19 p 90 Danes Study U. S. Methods*, Mar 10 p 174

10 p 174
Demand Reflected in Industrial
Growth of South, Feb 3 p 162
Desulfurizing Hot Metal, May 12

p 83

p 83
Detroit Demand Kept Up by High
Auto Production Schedules, Mar
24 p 121
Distribution Alarming, Feb 17 p

140 Distribution by Consuming Industries (1939-48) (Table), Feb 2 p 144

Driving and Controlling A Modern Strip Pickling Line*, Jan 13 p 46

Dry Lime Treatment of Waste Pickle Liquor*, Jan 20 p 48
Facilities Improved, Record Sums Spent, Feb 17 p 155
February Output Sets Weekly Record, Mar 17 p 140
Fused Ore for the Openhearth*, Apr 7 p 82
Gary Sheet and Tin Mill Modernization Completed*, Mar 17 p 91
German Foil Mill Equipment Rolling for Kaiser, May 12 p 140
German Output to Reach 10 Million Tons, Feb 10 p 161
Good Export Prospects for Balance of Year Seen, June 2 p 115
Government Owns \$150 Million Steel Facilities, Feb 10 p 115
Graph Lure-Suggests Guessing Game (Table), May 26 p 125
Hand Mills Face Foreclosure of War-Induced Lease on Life*, Apr 21 p 117
Hish Ouality Easier, Feb 10 p 119

nt En

t Sched

ng, Feb

ctension cel. Feb

p 103

ting at

inished d, May

on Its p 164 rentory esting.

ement

ls*, (2 7 p 93

p 121 Feb p 72 acea*

Metal-

146 May

sifica

5 Pet Apr

ought 142

Pro

May.

oof*

pates

Pro-

Pri

r 28

Jan

ord

948

ks*.

Mill

Mar

12

24

Hand Mills Face Foreclosure of War-Induced Lease on Life*, Apr 21 p 117
High Quality Easier, Feb 10 p 119
Hollow Steel Ingots, Centrifugally Cast, May 26 p 81
Ingot All-Time Production Record, Apr 14 p 164
Ingots, Castings Production Record Set, June 2 p 148
Inventories, Warehousemen See Improvement, B ut Drooping Sales Volume, Apr 14 p 127
Iron Ore*, Jan 6 p 229
Italian Modern Plant, Competitive Prices, Aim, Apr 14 p 130
January Output Reaches All Time High, Feb 24 p 150
Jet Caster Speeds Tap Hole Opening*, Feb 17 p 85
Keystone Steel & Wire Modernizes Rod Mill*, Mar 3 p 109
K-F Blast Furnace Cuts Production, Mar 10 p 136
K-F Furnace Cuts Output, Mar 17 p 165
Lake Superior Iron Ore Consump-

p 165
Lake Superior Iron Ore Consumption During May, June 30 p 92
Lone Star Steel Co. Asks RFC
Loan, Jan 27 p 120
Market Competition Strong; Base
Prices Due for Test, Apr 14 p
121

121
Metallurgy*, Jan 6 p 216
Mill Pulpits, Lee Wilson Construction Co.*, Mar 10 p 123
New England Steel Plant Hopes,

Jan 27 p 109
Oxygen Enrichment in the Low-Shaft Furnace, June 23 p 70 Pig Iron December 1948 C Sets Record, Feb 10 p 139

Pig Iron, Record Year Seen, Mar 10 p 161 Pittsburgh Furnaces Down, Quality Steel Orders Lag, Mar 31 p

Prices and Production*, Jan 6 p 282

Processing Variables Studied by Openhearth And Blast Furnace Operators*, Apr 28 p 78 Profits First Quarter 70 Pct Above Same Period of 1948, May 5 p 139

Raw Steel Output, First Quarter Marks Record, April 21 p 175 Record Output Continues; Supply and Demand Balancing, May 5

Record Reported, Jan 20 p 114
Reversing Hot Strip Mill, Evolution*, May 19 p 86
Scrap Market Reflects Weak Optimism on Business Conditions,
June 2 p 119

ents of Finished Products and 1947 (Table), Feb 17 Shipments p 140

Shipments of Steel Products, No hipments of Steel Products, No-vember, Jan 20 p 102; Decem-ber, Feb 17 p 137; January, Mar 24 p 128; February, Apr 14 p 127; March, May 12 p 138; April, June 9 p 110 0-80 Million Tons Ingots An-nually Sound Peacetime Rate, May 26 p 126

Smelting Plan for Proposed Labra-dor Ore Output, Apr 14 p 140 Sponge Iron, Commercial Produc-tion*, June 2 p 67

Stainless Mill Equipped to Process Wire Products*, June 30 p 105 Steel and the Public*, Jan 6 p 178 Steel Capacity*, Jan 6 p 198

Steel Ingots and Steel for Castings, Production, December, Jan. 20 p 110; January, Feb 17 p 134; February, Mar 17 p 138; March, Apr 21 p 122; April, May 19 p 142; May, June 16 p 142A Technical Gains Reflected, June 16

Technical Gains Renected, July p 150
p 150
Turbo-Hearth*, Apr 21 p 63
U. S. and Canadian Blast Furnace
Consumption in December, Jan

Consumption in December, Jan 27 p 106 Uses Oxygen Enriched Cupola Blast, Jan 27 p 65 Venezuelan Steel Mill, First Sched-uled for Operation, Jan 13 p 102-C

Western Ingot Production High, May 19 p 118 Western Steel*, Jan 6 p 259 World Steel*, Jan 6 p 191

Steel, Treatment:
ASTE Studies Basic Metal Processing Techniques*, Mar 31 p 74
Chromizing with Chromium Chloride, Feb 24 p 100
Ductile Cast Iron—A New Entereing Material*, Feb 17 p 76
Heating For Hardening and Forging With RF Equipment*, Feb

ing With RF Equipment*, Feb. 17 p. 87
Metallurgy*, Jan 6 p. 216
Metallurgy*, Jan 6 p. 216
Metallizing, New Developments
Widen Use*, Mar 17 p. 81
Nitriding, Analysis*, (2 Parts),
Feb. 10 p. 68; Feb. 17 p. 93
Physical Properties of Reduced
Iron Powder Plus Graphite and
Copper*, Mar 24 p. 81
Pickling Room Fog, Eliminating*,
May 26 p. 79
Prealloyed Steel Powders*, March
31 p. 78

31 p 78 Predicting Carbon Penetration Curves in Carburizing*, Jan 27 p

74
Quenching Media, Effect of Contamination*, May 5 p 88
Stress Peening*, Apr 21 p 66
Tool Steels, Ultrasonic Testing*,
May 19 p 80

Stephens-Adamson Mfg. Co.: Belt Conveyer Carrier, May 5 p

Stern, George:
Physical Properties of Reduced
Iron Powder Plus Graphite and
Copper*, Mar 24 p 81

Stevens Institute of Technology: Memorial Laboratory Dedicated, May 19 p 138 Stokes, F. J. Machine Co.: Powder Metal Press*, Feb 3 p 126 Rotary Compressing Machine*,

Rotary Comp Apr 28 p 92

Stop-Fire, Inc.: Automatic Fire Extinguisher, Feb 10 p 87

Stout, A. D., Jr.:

Mechanization Boosts Westinghouse Foundry Capacity*, Jan
13 p 55

Straub, John C. and Don May, Jr.: Stress Peening*, Apr 21 p 66

Stress Peening, by John C. Straub and Don May, Jr.*, Apr 21 p 66

Strikes: (See Labor, Wages)

Strip Steel: (See Plate, Sheet, Strip)

Stripping: (See Cleaning and Finishing)

Studebaker Corp.: Wheeled Fixture Speeds Truck Cab Assembly*, Jan 20 p 58

Sturgis Products Co.: Finishing Machine, Feb 24 p 103

Submerged Arc Skip Welding Ring Gears to Stamped Flywheels, by S. M. Spice*, Jan 27 p 66

Sullivan, G. F.:
Allegheny County Enacts Law to
Control Smoke and Fly Ash,
May 26 p 117

Freight Absorption, Federal Court Ruling Hamstrings, Mar 31 p

Hand Mills Face Foreclosure of War-Induced Lease on Life*, Apr 21 p 117 Iron Age Staff Changes*, June 30

p 97 Mobile's Industrial Growth*, Feb

p 125
Railroad Freight Car Buying Returns to "Normal" With a Bang, June 23 p 113
Scrap Convention Discusses Prices and Quality*, Jan 27 p 114
Scrap Market Reflects Weak Optimism on Business Conditions, June 2 p 119
Southeastern Industrial Rise* Mar

Southeastern Industrial Rise*, Mar

Southeastern Industrial Rise*, Mar 3 p 152 Steel Capacity*, Jan 6 p 198 Steel Companies Unwilling To Start A Price War At This Time, June 30 p 99 Steel Company Earnings Rose in 1948, Apr 7 p 146 Steele Demand Reflected in Indus-trial Growth of South, Feb 3 p 162

162
Steel Profits First Quarter 70 Pet
Above Same Period of 1948,
May 5 p 139
Steel Scrap Market, New Factors
Change Tone, Jan 13 p 95
Tests Scheduled Soon on Stainless
Steel Coal Conveyer Belts, June

16 p 133

S. Steel Corp. Making Drastic Revisions in Extra Charges, Apr

28 p 123 S. to Prove Can Do Without Russian Manganese, Mar 10 p

Sundstrand Machine Tool Co.: Contour Milling Machine*, Feb 24 p 101 Milling Machines*, Apr 28 p 91

Sun Oil Co.: Lubricant, Mar 10 p 123

Sunnen Products Co.: Tension Wrench, June 30 p 69

Super-Soak Co.: Parts Cleaning Machines*, June 2 p 85

Super Tool Co.: Core Drill, Mar 17 p 99 Insert Grinding Fixture*, Apr 14 p 91 Screw Machine Drill, Mar 31 p 82

Superior Wire Cloth Co.: Stainless Steel Screening*, June 9 p 68

Surety Rubber Co.: Coated Fabric Gloves, Mar 17 p 103

Surpluses, Government:
Basic Magnesium Plant Sale Approved, Feb 17 p 137
Iron and Steel Facilities Under Lease (Table), Feb 10 p 116
Magnesium Plant, Government Owned, Sold, June 9 p 82
Ohio Steel Foundry Sale Approved, Lune 16 p 135

Ohio Steel Foundry Sale Approved, June 16 p 135 Ore Property, Sold to New York Company, Jan 6 p 374 Reynolds Buys Michigan Alumi-num Plant, Apr 14 p 126 Sales of Iron and Steel Facilities (Table), Feb 10 p 116 Steel Foundry For Sale, Jan 20 p 111

111 University of Texas Acquires Austin Property, May 19 p 155 WAA Gets New Life, Feb 24 p 114 WAA Offers Detroit Plants, Mar 3, p 162 Warren Plant, Sale Proposed By WAA, Jan 6 p 308

Switches: (See Electrical Equipment)

Syntron Co.: Vibrating Screens*, Apr 7 p 107 Vibratory Conveyer*, Jan 13 p 67

T

Taber Instrument Corp.: Production Press*, May 5 p 102

Tabor Mfg. Co.: Power Draw Machine*, Feb 17 p

Taconite (See Ore)

Taco West Corp.: Program Controller*, May 5 p 103

Taft-Peirce Mfg. Co.: Powered Gaging Handle*, Mar 24 p 93 Reversible Plug Gages, Mar 24 p

Tahlen Metal Industries, Inc.: No-Bounce Hammer, Mar 10 p 124

Talon, Inc.: Training Tool and Diemaker Apprentices*, Feb 24 p 72

Tapping and Threading:
Double-End Taps, National Precision Tool Co.*, May 5 p 104
Tapping Attachment, Dorman Machine Tool Works*, May 19 p

105
Tapping Machine, Cross Co., May
12 p 101
Tapping Machine, Le Maire Tool
& Mig. Co.*, Mar 17 p 99
(See also Machining; Screw Machines)

Releasing Tap Holder, Marcellus Míg. Co.*, June 23 p 85

Tariff: (See U. S.)

Taxation: Machinery Rises on Pittsburgh Firms, Feb 17 p 132

Taylor Instrument Co.: Temperature Transmitter*, May 26 p 86

Taylor-Wharton Iron & Steel Co.: Weir Kilby Acquires Majority of Stock, Feb 3 p 164

Taylor-Winfield Corp.: Multiple Electrode Welder*, June 23 p 84

Tempil ° Corp.: Super Alloys, Mar 3 p 113

Tennessee Eastman Corp.: Transparent Strippable Coating, Mar 17 p 103

Resting and Inspection:
Aircraft Components, Ultrasonic Testing*, June 23 p 66
Aluminum Alloy 3S, Metallographic Study*, May 26 p 74
Automatic Gaging Machine, Sheffield Corp.*, Feb 17 p 100
Balancing Ways, Crown Industrial Products Co., Mar 3 p 115
Bearings, Friction-Type, Getting the Most Out*, Mar 3 p 96
Bearings, How Link-Belt Produces Ball and Roller*, (2 Parts), June 23 p 74; June 30 p 58
Ceramic Surface Plate, Norton Co.*, Apr 7 p 107
Checking Thread Pitch Diameter Runout*, Mar 3 p 95
Colorimetric Methods of Analysis, Guide*, Apr 28 p 88
Cylinder Block Gaging Machine, Sheffield Corp.*, Mar 31 p 83
Ductility Testing Machines, Inc.*, Mar 17 p 100
Force Indicator, Hunter Spring Co.*, Apr 14 p 91
Gaging 125 Valve Tappets Per Minute*, May 26 p 66
Gaging Spindle, Sheffield Corp.*, June 23 p 85
Gear Gage, George Scherr Co.*, Apr 14 p 91
GM and Chrysler Produce Roughness Gage Blocks for Machined Surfaces, Mar 17 p 106
High Temperature Microscopy, Feb 10 p 74 Testing and Inspection:

Hydraulic Dynamometer, Wagner Electric Corp.*, Mar 17 p 100
Infrared Detector Spots Faulty
Power Line Joints, Feb 3 p 124
Low Temperature Cabinets, Industrial Cold Co.*; Mar 3 p 111
Measuring Machine, George Scherr
Co.*, May 5 p 104
Measuring Magnetic Anisotropy of
Steel, May 5 p 80
Micro Hardness Tester, Kent Cliff
Laboratories*, Mar 24 p 92
Mounting Metallographic Specimens at Room Temperature, Mar
10 p 109

10 p

10 p 109
N:S Relationship in Endurance
Testing*, Mar 10 p 103
Nitrogen in Steel*, June 30 p 52
Noise Meter Checks Mechanical
Assemblies*, Mar 31 p 80
Oldsmobile Uses Modern Gaging
Techniques In Producing New
Engine*, Feb 10 p 78
Packaged Laboratories, Instru-

red Laboratories, Instru-& Chemical Corp.*, May 87 Packaged

Packaged Latonment & Chemical Corp.*, 26 p 87
Plug Gages, Standard Gage Co.*, Jan 20 p 74
Po were d Gaging Handle, TaftPeirce Mig. Co.*, Mar 24 p 93
Practical Applications of Stress
Analysis at I-H*, Mar 17 p 76
Research*, Jan 6 p 241
Rolling Load Fatigue Machine,
Baldwin Locomotive Works*,
14 p 89
Source, Im-

Research*, Jan 6 p 241
Rolling Load Fatigue Machine,
Baldwin Locomotive Works*,
Apr 14 p 89
Spectrographic Power Source, Improved*, Apr 21 p 84
Steel Test Benches, Fisher Scientific Co., June 23 p 87
Sub-Zero Automatic Equipment, J.
R. Miller Corp.*, Apr 21 p 88
Supercharger Bucket Blades, Milling From Bar Stock*, June 23 p
60

Tap Guide, Dahlstrom Mfg. Co., Feb 3 p 127
Thickness Tester for Timplate Coatings*, May 12 p 89
Tungsten-Molybdenum Thermocouples*, Mar 31 p 65
Ultrasonic Testing of Tool Steels*, May 19 p 80
(See also Instruments)

Thew Shovel Co.: Self-Propelled Crane, Jan 13 p 66

Thomas Steel Co.: Sales Earnings, Mar 31 p 145

Thompson Grinder Co.: Surface Grinders*, May 5 p 101

Thomson Electric Welder Co.: Flash-Butt Welder*, Feb 10 p 85

Thomson Industries, Inc.: Ball Bushings*, Mar 31 p 83

Threading: (See Screw Machines and Prod-

Thread Rolling: Automatic Thread Roller, Hartford Special Machinery Co.*, June 2 Heavy-Duty Thread Roller, Wat-son-Flagg Machine Co.*, Feb 17

son-riagg Machine Co., Feb. 17, p. 100
Thread Roller, Batchelder Engineering Co.*, Mar 3 p. 111
Thread Roller, Rolled Thread Die Co.*, Feb. 3 p. 126

Tilley, Milton, W. M. Albrecht, L. R. Spann and J. H. Lansing: Machining Malleable Iron*, June 2

Timesaver Products Co: Lapping Compound, Apr 21 p 89

Time Studies: (See Management)

Alaskan Deposits Described, June Changes Reported; Conservation Conservation Changes Reported;
Consumers Benefit, Apr 7 p 154
Conservation S ys t em, 6 More
Months, Jan 6 p 312
Offgrade Pig Restrictions Eased
For Private Imports, May 12 p
152
Private Reduction Seen Possible

Price Reduction Seen Possible, May 19 p 147

Products, Conservation Orders Products, Conservation Orders Changed, June 2 p 120 Restrictions Change, Mar 31 p 142 Smelting Aid Legislation Consid-ered, May 5 p 178 (See also Nonierrous Metals)

Tin & Chemical Corp.:
Plant Begins Opera-Detinning Plant Beg tions, June 16 p 146

Tin Research Institute: Electrolytic Tinning Bath Studied, June 23 p 64

Tinnerman Products, Inc.: Expansion Speed Nuts, Feb 17 p Speed Clip*, June 16 p 104 Speed Nut Retainer*, Feb 3 p 128

Tinplate: Second Quarter Thickness Tester for May 12 p 89 Third Quarter Export Quota Cut, May 5 p 154 econd Quarter Quota, Feb 3 p 175

AIME Annual Meeting*, Mar 3 p 104 Boron Steels for Moderate Tem-peratures*, June 16 p 90 Commercial Properties Discussed,

Commercial Properties Discussed, May 19 p 144
Enamels Applied Direct to Titanium Steels*, Jan 27 p 77
Hot-Rolling Of Powder Reported, Apr 7 p 164
Melting and Casting*, Jan 13 p 58
Metallurgy*, Jan 6 p 216
(See also Nonferrous Metals; Steel)

ools, Cutting: Automatic Followers, Turchan Fol-lower Machine Co.*, June 30 p Band Saw, Tyler Mfg. Co., Feb 24

p 102
Carbide Center Blanks, Carboloy
Co., Inc., June 30 p 67
Carbide Insert, When and How to
Use*, May 12 p 84
Carbide Tipped Tools, Nelco Tool
Co., Inc.*, May 26 p 87
End Mills, Wendt-Sonis Co.*, June
30 p 67 p 67

30 p 67
Explained in Booklet, Apr 14 p 154
Form Tools, Johns-Hartford Tool
Co.*, Mar 31 p 84
Hot Milling High Strength Alloys*, Apr 28 p 67
Insert Cutting Tools, When and
How to Use*, May 12 p 84
Insert Toolholders, VascoloyRamet Corp., Feb 10 p 85
Lapping Tools, Chicago Broach
Co.*, June 30 p 67
Machining Axles at Ford*, Apr 28
p 72

p 72 Metallurgy and Heat Treatment of Cutting Tools*, (Part II), Jan Cutting Tools*, (Part II), Jan 13 p 61 Offset Tools, Kennametal Inc., June

30 p 67

Observable 1 of Special Carbide Cutters, Senametal Inc., June 130 p 67
Pipe and Bolt Threader, Beaver Pipe Tools, Inc., Feb 17 p 101
Pipe Saw E. H. Wachs Co.*, May 19 p 106
Power Pipe Threader, Armstrong Bros. Tool Co., Feb 24 p 104
Saw Blades, Motch & Merrywether Machinery Co., June 23 p 83
Solid Carbide-Cutters, Severance Tool Industries, Mar 24 p 92
Solid Carbide Reamers, Atrax Co., Apr 28 p 91

Tools, Machine (See Machine Tools)

Tools, Pneumatic: Impact Air Hammer, Mead Special-ties Co., Feb 17 p 102

Tools, Shop:
Air Plier, Aircraft Tools, Inc., June
2 p 87

2 p 87
Diamond Tool Holder, J. K. Smit & Sons, June 2 p 87
Electric Drill, Stanley Electric Tools*, June 2 p 86
General Purpose Electric Drill, Stanley Electric Tools, Mar 10 p 121
Hydraulic Wiss.

p 121 Hydraulic Wire, Columbian Vise & Mfg. Co., Mar 17 p 102 Impact Wrench, Ingersoll-Rand Co., Apr 21 p 89

Jaw Clamps, J & S Tool Co., Mar 24 p 93 No-Bounce Hammer, Tahlen Metal Industries, Inc., Mar 10 p 124 Notcher and Punch, Whitney Metal Tool Co., May 19 p 107 Power Hammer Adapter, Hamer-Dril Co., Mar 17 p 102 Reversible Ratchet Wrench, Greene, Tweed & Co., June 16 p 105

P 105

p 105
Reversible Screw Driver, Reed
Roller Bit Co.*, June 9 p 72
Small Tools, Northwestern Tool &
Engineering Co., Apr 14 p 93
Stapling Hammer, Bostitch, June
23 p 87
Tension Wrench, Sunnen Products
Co. June 30 p 69

Tension Wrench, Sunnen Products
Co., June 30 p 69
Tri-Spindle Portable Tool, Smilan
Tool Co.*, June 2 p 84
Utility Vises, Wilton Tool Mig.
Co.*, June 30 p 68
Vises, Graham Mig. Co., Inc., Mar
3 p 115
Wire Stripper, Ideal Industries,
Inc., Mar 10 p 122

Tower, Walter S.: Steel Industry Still Target*, June 2 p 77

Tractomotive Corp.: Materials Handling Loader*, May 26 p 88

Training (See Management)

Training Tool and Diemaker Appren-tices at Talon, by Reginald tices at Talon, by Perry*, Feb 24 p 72

Transall Inc.: Belt Conveyer*, Jan 13 p 66

Transition Problems In Product The Unified Screw Thread, William Boyd*, Feb 24 p 66

Transportation:
Alloy Steel Castings, Talgo
Makes Extensive Use*, J

p 58
Domestic Freight Car Deliveries
For December, Jan 13 p 92
Dravo Builds Dry Cargo Barges,
Mar 3 p 144
Freight Car Program Doomed Unless New Orders Placed, Feb 17
p 129
Cas Turbing Flectric, Learneying

Gas Turbine-Electric Locomotive Test Completed*, June 16 p 142B Higher Railroad Rates Asked, Mar

10 p 160 Increased Freight Rate Boosts Steelmaking Costs, Feb 3 p 200 Inland Waterways Set Record, Feb p 188

3 p 188
Lake Erie and Ohio River Terminal
Belt Conveyer*, Feb 10 p 126
Overland Belt Conveyer System,
Fight Looms, Mar 17 p 136
Rail and Motor Traffic Outmoding
Bridges, Mar 17 p 152
Railroad Freight Car Buying Returns to "Normal" With Bang,
Inne 23 p 113

June 23 p 113 ailroads Market 15 Pct Scrap Railroads

Consumed, Jan 13 p 78
St. Lawrence Seaway Estimated
Toll Revenues (Table), Feb 24 140

p 140
St. Lawrence Seaway Project, Possible Congressional Approval*, Feb 24 p 140
Subsidies May Become Necessary, Mar 17 p 169
Truck Load Increase Asked in Pennsylvania, Apr 28 p 134
Venezuelan Ore Developments Encounter Obstacle*, Mar 3 p 149
Water Shipping Interests Claim Coast Rail Rates Unfair, Feb 24 p 116
(See also Railroads)

Trion, Inc.: Electronic Gas Filter, Feb 17 p 102

Triple Surface Protection For Draw ing and Ironing Aluminum, by E. V. Crane, S. Battaglia and H. Rottersman*, Mar 10 p 106

Trolley, Vincent:
100 Valve Tappets A Minute*, Feb
3 p 110

(See Automotive Industry)

Freight cision Freight

Legal Industr Liste Inland Revi Iron, S Rechar

Loss Gov Indi Milita

Apr Milita Join p 10 Munit

Dir 104 uni

Munit Abo

Mes

Ste 2

Trucks, Industrial (See Material Handling)

Tubes, Steel (See Pipe, Tubes)

Tungsten-Molybdenum Thermo couples, by R. D. Potter and N J. Grant*, Mar 31 p 65

Tungsten:
Brazil Predicted World's Larger
Producer, Apr 21 p 134
Molybdenum Thermocouples*, Ma 31 p 65

Turbines: urbines: Ceramic Blades, Feb 10 p 77 Gas-Electric Locomotive Test Com-pleted*, June 16 p 142B Power Plant Operates at 1050*F June 30 p 64

Supercharger Bucket Blades, Milling From Bar Stock*, June 2 p 60 Vertical Turbine, Whiton Machi Co.*, June 16 p 103

Turbo-Hearth, by E. C. Bain and I W. Graham*, Apr 21 p 63

Turchan Follower Machine Co.: Automatic Followers*, June 30 p

Turning (See Lathes; Machining)

Two Unusual Material Handling Systems, by Stanley G. Smith*, Ap 14 p 76

Tyler Mfg. Co.: Band Saw, Feb 24 p 102

U

Udylite Corp.: Heating-Cooling Coils*, May 12: 103 Plating Hook, May 12 p 103

Ultrasonic Testing of Aircraft Com-ponents, by William C. Hitt June 23 p 66

Ultrasonic Testing of Tool Steels, b James C. Hartley and Edgar R Mull*, May 19 p 80

Ultrasonic Corp.: Generators for Industrial Dust €on trol, Apr 14 p 88

Union Brass & Metal Mfg. Co.: Bronze Foundry Realizes Sav By Modernizing Melting naces*, Feb 3 p 122 Melting Fur

Union Metal Mfg Co.: Open-Side Pallet Rack*, May

Union Steel Products Co.: Selective Delivery System, Apr 21 p 89

Union Wire Rope Corp.: Wire Rope Slings, Feb 10 p 87

United Chromium, Inc.: Dip Treatment For Zinc, Feb 19 p 87

United Electric Motor Co. Industrial Mixer, May 1

United Laboratories, Inc.: Floor Surfacing Material, June 3 p 69

Uranium: (See Atomic Energy)

Armed Services
6 p 162
Capacity Proposals, Capitol Hill
Weakening, Mar 10 p 132
Consumes 74 Pct World Nickel:
Precious Metals Losses Cut in
Production, May 12 p 162
Delivered Price Problem Solution
in Sight, Feb 17 p 110

Program, Administration

War 10 p 132

Freight Absorption, Court's Decision Expected, Apr 7 p 118
Freight Absorption Permanently
Legalized By Bill, June 9 p 108
Industrial Reserve Plants, 236
Listed, Apr 7 p 139
Inland Steel Case, Court Refuses
Review, May 5 p 114
Iron, Steel Products Export Quotas
Removed; Regulations Unchanged, Apr 21 p 124
Loss of Economic Strength From
Government Encroachment In
Industry, Apr 28 p 127
Military Aid Close to \$1.5 Billion,
Apr 28 p 102
Military Contracts Renegotiation
Joint Rules Completed, June 30
p 104

ermor and

Large

ese, M

77 est Con

1050°F

es, Mi

Machi

and I

30 p

ing Sys

ay 12 ;

t Com

cels, b

st Cor

Savings Fur

fay

Apr 2

87

eb 1

ine

, Jar

Hil ickel;

lutio

03

unitions Board Industrial Affairs Directed by Civilians, Mar 24 p

104 unitions Board Not Worried About Steel Capacity, May 26 Munitions

About Steel Capacity, May 26 p 96
New Regulations on Patents, Copyrights Adopted, June 2 p 153
Proposals of White House Face Fight in Congress, Jan 13 p 101
Public Works Shelf Need Increased, June 2 p 94
Shipbuilding Approaches Crisis*, Feb 10 p 117
Steel Distribution Alarming, Feb 17 p 140

teel Facilities, \$150 Million Owned, Feb 10 p 115 teelmen Hope Government O. K.'s Accelerated Depreciation, Feb 3 Vorldwide Technical Cooperation Called For, Mar 17 p 110

S. Drill Head Co. Oil Circulating Drill Head*, Apr 7 p 108

S. Safety Service Co.: Impregnated Salt Tablets, June 16 p 105

S. Steel Corp.: Fourth Quarter Earnings, Jan 27 p 106

Improvements, Jan 6 p 308 Making Drastic Revisions in Extra Charges, Apr 28 p 123
Measuring Magnetic Anisotropy of
Steel, May 5 p 80
Steel Nationalization Threat, Jan
27 p 111

S. Steel Export Co.: Changes Base Prices Carbon, Alloy Steel Ingots, Billets, Slabs, May 26 p 121 Shows Freight Rise, Jan 20 p 120

niversal Engineering Co.: Tool Holder*, May 12 p 102

See Atomic Energy)

V

acuum Metallurgy: Controlled Atmospheres Used by New Casting Corp., Mar 31 p 117

Valvair Corp. : Single-Solenoid Valves, June 23 p

Valves and Fittings:
Air Control Valve, Logansport
Machine Co.*, June 2 p 86
Air Valve, Palmer-Shile Co., May
19 p 106

Air Valve, Falmer-Sinie Co., 19 p 106
Air-Water Operating, Leslie Co., May 12 p 105
Check Valves, Farker Appliance Co., Feb 10 p 85
Dual Valve, R-S Products Corp., June 30 p 69
High-Pressure Valves, Emmelt Machine & Mig. Inc., June 9 p 73

73 rared Detector Spots Faulty Power Line Joints, Feb 3 p 124 Multi-Flow Rotameter, Brooks Rotameter Co., June 9 p 70 Oil Pilot Valves, Gerotor May Corp.*, May 5 p 103 Quick Exhaust Valve, Ross Operating Valve Co., Apr 28 p 92 Single - Solenoid Valves, Valvair Corp., June 23 p 87

Structural Fitting, E. B. Wiggins Oil Tool Co.*, Mar 17 p 102 Welded, Fabricated from Flat Steel Plate*, Feb 3 p 121

Vanadium (See Nonferrous Metals; Steel)

Van Camp, H. W.: Prices and Production*, Jan 6 p 282

Vascoloy-Ramet Corp.: Carbide Tool Holders, Feb 10 p 85

Vanott Machine Corp.: Polishing Machines*, June 16 p 102

Vaughan, K. A.: Proper Battery Maintenance Cuts Industrial Truck Operating Costs*, Mar 10 p 118

Veeder-Root Inc.:
Magnetic Counter, June 23 p87

Venezuela: orst Steel Mill Scheduled for Operation, Jan 13 p 102-C Pre Developments Encounter Transportation Obstacle*, Mar 3

Vogel Tool & Die Corp.: Tube Cutoff Die, May 19 p 104

W

Wachs, E. H., Co.: Pipe Saw*, May 19 p 106

Wages (See Labor, Wages)

Wagner Bros., Inc.: Copper Anode, Apr 28 p 95

Wagner Electric Corp.: Bearing Tool, May 12 p 102 Hydraulic Dynamometer*, Mar 17

Wagner, J. A. and E. N. Harrison: Intermittent Oxygen Enrichment of the Cupola Blast*, May 12 p

Wakefield, John E .: keheld, John E.: lew Developments Widen Metal-lizing Use*, Mar 17 p 81

Waldes Kohinoor, Inc.: Self-Locking Retainer*, Mar 24 p

Wales-Strippit Corp.: Notching Units*, Mar 24 p 94

Walsh Specialty Co., Inc.: Punch Press Feeder*, June 2 p 84

Waprin Corp.: Platform Utility Truck, Jan 13 p 69

War Assets Administration (See Surpluses, Government)

Warco Press Div.: Stamping Press*, Feb 10 p 84

Ward, H. C.: Brass and Forgings*, May 12 p 78

Warehousing (See Industry; Steel Industry)

Warner & Swasey Co.:
Automatic Chucking Machine*,
June 2 p 83

Watson-Flagg Machine Co.: Heavy-Duty Thread Roller*, Feb 17 p 100

Webb Corp.: Vertical Bending Roll*, Jan 20 p

Webb, Jervis B., Co.: Floor Type Tow Conveyer*, Mar 3 p 113 Rivetless Conveyer Chain*, Apr 21

Webber Gage Co.: Insulated Gage Blocks, May 19 p 104 Precision Indexer, Mar 10 p 122

Welders' Products: Welding Helmet, Mar 31 p 85

Welding: Awards For Best Papers, Mar 10

Compressor Shells*, June 23 p 65 Copper Welding Rod, Arcos Corp., Feb 3 p 129 Covers, A. Smith & Sons, May 12 p 105

p 105
Drilling Jig, Welded Construction*,
May 19 p 94
Fittings Fabricated from Flat Steel
Plate*, Feb 3 p 121
Goggle, Willson Products, Inc.*,
June 16 p 104
Hardfacing Alloys, Air Reduction
Sales Co., Mar 3 p 115
Hardfacing Welding Rods, American Manganese Steel Div., Feb 3
p. 125

can Manganese Steel p 125 Hard Surfacing Powder, Lincoln Electric Co., Jan 27 p 79 Helmet, Welders' Products, Mar 31

p 85 New Cars, Increasingly Important, May 19 p 110 Scrapped Locomotive Axles for Large Press Dies*, June 2 p 125 Torches, Weldit, Inc.. June 23 p 85 Welders' Protective Clothing, Les-ter L. Brossard Co., Apr 7 p 109 Wire Welder, Sciaky Bros., Inc.*, Feb 3 p 125

Welding, Electric: A C Welders, Shift To Saves Power*, May 5 p 99

Arc Welders, General Electric Co.*, Apr 7 p 106 Arc Welders, Gen-Roberts Co.*, Apr 14 p 90 Automatic Arc Stabilizer, Mid-States Equipment Corp.*, Mar 3 p 112

p 112 Automatic Arcwelding, Significance of Speed*, Mar 10 p 98 Bobbin Capacity Increased*, Apr 28 p 71 Chrome Pipe, Welding 4 to 6 Pct*, Apr 7 p 102

Apr 7 p 102
Comparable Arcwelding 4 to 6 Pct*,
Apr 7 p 102
Comparable Arcwelding Electrode
Charts, Feb 24 p 85
Compressor Shells*, June 23 p 65
Driving and Controlling A Modern
Strip Pickling Line*, Jan 13 p
46.

46. Flash-Butt Welder, Rex Welder & Engineering Co.*, Feb 3 p 125
Flash-Butt Welder, Thomson Electric Welder Co.*, Feb 10 p 85
High Frequency Welders, National Cylinder Gas Co.*, Mar 31 p 82
Insulated Electrode Holders, Bernard Welding Equipment Co., May 5 p 104
Laundry Machinery Redesigned for Welded Construction*, May 5 p 92

Leak-Proof Electrode Holders, P. R. Mallory & Co., Inc., Mar 17 p 101

P. R. Mallory & Co., Inc., Mar 17 p 101 Multi-Hydromatic Largest Auto-matic Welding Unit Completed, Mar 17 p 106 Multiple Electrode Welder, Taylor-Winfield Corp.*, June 23 p 84 Resistance Welding Control, West-inghouse Electric Corp.*, Feb 10 p 84 Ring Gears to Stamped Flywheels, Submerged Arc Skip*, Jan 27 p 66

Sequence Weld Timers, Weltronic Co.*, Apr 14 p 90
Small Are Welder, Lincoln Electric Co.*, June 30 p 66
Spot and Arc Welders, Delta Mfg.
Div., Mar 24 p 91
Spot Welder Arm Adjuster, Resistance Welders Service Co.*, Mar 21 p 82

tance Welders Service Co.*, Mar 31 p 82
Spot Welder Control, Square D Co., Jan 27 p 79
Spot Welder, Eisler Engineering Co., Inc.*, Mar 10 p 122
Stainless Steel Electrode, Champion Rivet Co., Apr 7 p 106
Tack Welding Electrode, Hobart Bros. Co., June 9 p 73
Welding Generators, Miller Electric Mgc Co.*, June 2 p 84
Weld-Time Meter, Westinghouse Electric Corp., Mar 24 p 92

Welded Construction Drilling Dig by Welding, Gas:
Robert Mawson*, May 19 p 94

Activated Cylinders, Actua Cylinders, Inc., Apr 14 p 92

Aluminum Welding Alloy, Eutectic Welding Alloys Corp., Mar 10 p

Aluminum Welding Alloy, Eutectic Welding Alloys Corp., May 26

p 86
Welding Hose, Gates Rubber Co.,
Mar 3 p 113
Welding Kit, All-State Welding
Alloys Co., Mar 31 p 25
Welding Regulator, Oxo Welding
Equipment Co., Apr 14 p 90

Welding, Inert Atmosphere: Inert Gas Welder, Hobart Bros. Co.*, June 23 p 84 Welder-Timer Assembly, Miller Electric Mfg. Co.*, Mar 10 p 102

Welding, Shielded Arc:
Heliarc Welding Automobile Fenders*, Jan 13 p 51
Heliwelding Used as Repair Tool.
Feb 17 p 92
Spot Welding Torch, Linde Air
Products Co.*, Feb 24 p 104

Weldit, Inc.: Welding Torches, June 23 p 85

Weltronic Co.: Sequence Weld Timers*, Apr 14 p

Wendt-Sonis Co.: End Mills*, June 30 p 67

Westcott Chuck Co.: Universal Chucks. Apr 28 p 94

Western Felt Works: Vibration Dampener, May 26 p 89

Western Mfg. Co.: Automatic Transmission, Jan 27 p 80

Western Metal Congress and Exposi-Los Angeles to Be Host, Apr 7 p Nodular Graphite Irons, Apr 28 p

Western Reserve Steel Corp.: Seamless Tube Mill Planned, Jan 27 p 123

Western Steel, by R. T. Reinhardt*, Jan 6 p 259

Westinghouse Electric Corp.: All-Aluminum Preciptron, Feb 24

All-Aluminum Preciptron, Feb 24 p 102
Applying Titanium Enamels Direct to Titanium Steels*, Jan 27 p 77
Atomic Power Div. Executives Named, June 2 p 130
Battery Charger, Apr 21 p 89
Centrifugal Fan 80 Pct Efficient, Jan 20 p 124
Compressor Shells, Welding*, June

23 p 65
Foundry Capacity Boosted*, Jan 13
p 55
Hobbing Large Bull Gears*, June

9 p 86 Industrial Circuit Breakers*, May 12 p 104 Magnetic Strain Gage*, Feb 24

Magnetic Strain Gage*, Feb 24 p 102 Plans Increased Appliance Output, Jan 20 p 120 Resistance Welding Control*, Feb 10 p 84 Safety in Power Press Operations*, Apr 7 p 103 Weld-Time Meter, Mar 24 p 92

Weston Electrical Instrument Corp.: Clamp Ammeter-Voltmeter*, May 19 p 105

Wheelco Instrument Co.: Process Control Indicator, May 26 p 89

Wheeled Fixture Speeds Truck Cab Assembly, by George Kroger*, Jan 20 p 58

When Can Industrial Power Trucks Go Upstairs?* by Charles S. Schroeder, May 5 p 94

White-Roth Machine Corp.: Air-Gas Compressor*, Feb 3 p 128

Whiting Corp.: Full-Vision Crane Cab, Mar 3 p

Whitney Metal Tool Co.: Notcher and Punch, May 19 p 107

Whiton Machine Co.: Chuck Jaw Adjustment, Apr 21 p 89 Heavy Duty Power Chuck*, Mar 10 p 123 Lightweight Chuck, May 5 p 102 Milling Machine*, Apr 28 p 91 Vertical Turbine*, June 16 p 103

Wiegand, Edwin L., Co.: Electric Immersion Heaters, Apr 7 p 106

Wiggins, E. B., Oil Tool Co.: Structural Fitting*, Mar 17 p 102

Wilbur & Williams Co.: Metal Primer, Jan 27 p 83

Wilkie Co.: Telescopic Portable Conveyer*, May 26 p 88

Willey's Carbide Tool Co.: Carbide Tool Grinder*, May 5 p

Willinganz, Eugene: New Grid Casting Improves Battery Life*, June 9 p 62

Williams & Hussey Machine Co. Turret Lathe Attachment, June 30 p 67

Willson Products, Inc.: Welding Goggle*, June 16 p 104

Wilson Carbon Co., Inc.: Steel Hardening Compound, Mar 31 p 85

Wilson, Lee, Construction Co.: Mill Pulpits*, Mar 10 p 123

Wilton Tool Mfg. Co.: Utility Vises*, June 30 p 68

Industry Faced by Inventory Liqui-dation and Price Testing, June 16 p 141

Magnetic Cobalt-Nickel Alloys, Plated*, June 9 p 49 Monel Tie Wire, Metal Goods Corp., June 16 p 103 Products, Stainless Steel Mill Equipped to Process*, June 30 p 105

P 105
Resistance Wire, C. O. Jelliff Mfg.
Corp., June 30 p 69
Stainless Steel, Weaving Screening*, June 9 p 68
Steel Wire Production Up, May
19 p 146

Wolff, E. W. Speeds and Feeds To Use in Cylin-drical Grinding*, Mar 3 p 100

Wood, Alan Co.: Stainless-Clad Steel, Mar 17 p 103

Wood, R. D. Co.: Bending Press*, Jan 27 p 80 Flanging Press*, Jan 27 p 80 Forming Press, Jan 20 p 72

Woolrich, J. N.: Furnace Brazing Aluminum Refrig-erator Parts*, May 26 p 62

Work Incentives
(See Labor, Management)

World Steel, by S. D. Smoke*, Jan 6 p 191

Wysong & Miles Co.: Squaring Shear*, Mar 3 p 112

Yale & Towne Mfg. Co.: Dumping Attachment*, June 23 p 86

86
Fork Lift Truck*, June 9 p 72
Gasoline Industrial Trucks*, Feb
10 p 86
Lock Design Features Zinc Diecastings*, Feb 24 p 77
Pallet Truck*, Jan 13 p 65
Pittsburgh Depot Opened, June 9 p 135

p 135 lant Benefits From Material Handling Economies*, Jan 20 p Plant

Pressing Tubes Into Axle Housings*, Apr 14 p 85

Scale Knife Edges and Bearing, Machining*, June 9 p 50 Scale Weight Printer, Mar 3 p 114 Straightening Shafts*, May 12 p 10

Youngstown Sheet & Tube Co.; Doubles 1948 Expansion, Jan 2 p 131

Zagar Tool, Inc.: Broaching Attachment*, Mar 3 113 Special Boring Machine*, Apr ; p 86

Zahn, E. A.: Control System for Spray Paint ing*, May 19 p 96

Ziegfeld, R. L. and K. H. Roll: Powder Metallurgy, No Panacea Powder Met Mar 24 p 68

inc:
Diccastings, Direct Nickel Plating,
Feb 24 p 84
Diccastings Featured in Lock De
sign*, Feb 24 p 77
Dip Treatment For Zinc, Unitel
Chromium, Inc., Feb 10 p 87
Price Reduction; Lower Pige
Quotations, Apr 14 p 126
Price Reduction Reflected in Lower
Pipe Quotations, Apr 28 p 1381

Pipe Quotations, Apr 28 p 133
Price Reduction Reflected in Low
Quotations, June 23 p 118
(See Also Nonferrous Metals)